

**Ecological Risk Assessment:
Effect of Fog Oil Obscurant on
Selected Amphibians, Reptiles, and
Birds at Fort Leonard Wood, Missouri.**

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19970612 015

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Section I Introduction

Section I:

Introduction

The proposed Base Realignment and Closure (BRAC) action will involve moving the Chemical and Military Police schools from Fort McClellan, Alabama to Fort Leonard Wood, Missouri. The Environmental Impact Statement addresses impacts of this action on the human environment at Fort Leonard Wood (HBA 1996). A major component of the BRAC action involves introduction of fog oil smoke training to Fort Leonard Wood. The military uses obscurants for training in obscurant, screening, deception, and identification of equipment, facilities, and troops. Smoke can influence tactical operations of friendly and enemy forces (Shinn et al. 1987). This ecological risk assessment estimates potential direct toxicological effects of fog oil smoke training to adult and nonadult life stages of certain amphibians, reptiles, and birds at Fort Leonard Wood. We evaluate toxicological effects resulting from direct contact with fog oil. Indirect effects are addressed qualitatively.

Risks estimated herein were based on modeled fog oil exposure concentrations and toxicological values. The objective of any Ecological Risk Assessment (ERA) is to identify available chemical, toxicological, and ecological information and apply this information to approximate the probability of undesirable ecological effects (Wentzel et al. 1994).

We evaluated effects of the Relocate Current Practice (RCP), Environmentally Preferred Training Method (EPTM), and Army's Proposed Action (hereafter referred to as

Optimum Training Method) alternatives. The alternatives differ in the quantity of fog oil to be deployed. We evaluated the potential effects of static and mobile smoke training proposed in each alternative.

Fog oil (SGF 2 - Standard Grade Fuel) is the primary material used by the military to produce smoke at Fort McClellan. SGF 2 is referred to as "new" fog oil because another type of fog oil, SGF 1, was previously used by the military. Fog oil has letter designations used by the military for purchasing or issuing requests for production from manufacturers. Types A and B are "old" fog oil manufactured before 1986. Fog oil type C was used at Fort McClellan from 1986 to 1992. Fog oil designated as type D is currently being used at Fort McClellan. Fog oil type D or E will be used at Fort Leonard Wood. Because relatively little research on toxicological effects of fog oil have been conducted since 1986, many of the studies cited in this analysis discuss properties of old fog oil.

Fog oil smoke will be produced for training exercises at Fort Leonard Wood using the M56 and M157 generator systems. Fog oil smoke is generated by introducing liquid fog oil to a heated air stream. When heated fog oil enters the atmosphere, it condenses into a fog-like mist. Fog oil is aerosolized, not combusted or burned as the name "smoke" implies.

Effects (i.e., risks) in an ecological risk assessment are defined by assessment and measurement endpoints. Assessment endpoints are expressions of environmental values to be protected (Warren - Hicks et al. 1989). In response to U.S. Fish and Wildlife Service (FWS) concerns and those expressed by the public, this ecological risk assessment was initiated to assess effects of fog oil training to amphibians, reptiles, and birds. A detail description of the selection process used to choose the receptors, and information about the ecological relevance of each receptor is presented in Appendix X. We considered exposure to unsafe concentrations of fog oil to be an effect (i.e., a risk). Risks were used to determine direct effects to the species of concern. Indirect effects were addressed qualitatively. We assessed effects to eggs, immature stages (e.g., tadpoles, hatchlings, and juveniles), and adults of each receptor. One amphibian, 1 reptile, and 2 avian species were chosen as assessment endpoints (receptors of concern):

- amphibian: green frog, *Rana clamitans*
- reptile: eastern yellowbelly racer, *Coluber constrictor flaviventris*
- bird: northern bobwhite, *Colinus virginianus*
- bird: American robin, *Turdus migratorius*.

Our ERA focused on adults and certain nonadult life cycle stages of each species and determination of predicted exposure to unsafe concentrations of fog oil. We predicted exposure concentrations using an air dispersion model. We modeled exposure concentrations based on site specific information to determine exposure duration and frequency of fog oil training events. When site specific information was unavailable, we maximized input parameters and values to determine fog oil intake and exposure concentrations.

Measurement endpoints are quantitative values that can be measured in the laboratory or field. The measurement endpoints selected for this study were toxicity test endpoints, hazard quotients (HQ), and exposure point concentrations. We used selected measurement endpoints of toxicological studies to determine if receptors would be exposed to toxic concentrations of fog oil. No data is provided regarding population measurement endpoints for receptors/stressors in this ERA. Information is provided to allow for estimation of the number of individuals potentially affected by the BRAC action. We estimate the percent of the installation where effects to receptors are predicted to occur, and assuming an even distribution of receptors on Fort Leonard Wood, this estimate can be used to approximate the percent of each receptor population that will be affected. Because measurement endpoints included in this ERA address effects to individuals, Fort Leonard Wood will monitor certain biota and ecosystem parameters on the installation following implementation of the BRAC action.

The ultimate goal of this ERA is to determine if modeled concentrations of fog oil are toxic to receptors. We estimate the distance from the source that concentrations above toxicological values could occur. Adverse effects result when concentrations at exposure points exceed toxicological values or doses (e.g., NOAEL = No Observable Adverse Effects Level) not expected to result in adverse health effects. A fog oil toxicity reference value (TRV) was calculated for each species ($\text{NOAEL} \div \text{Uncertainty Factors} = \text{TRV}$). TRVs are developed

by applying uncertainty factors to toxicity values such as NOAELs or LOAELs (Lowest Observable Adverse Effect Level). Uncertainty factors account for anatomical, physiological, or morphological differences between species for which the NOAEL/LOAEL was calculated and the assessment endpoint.

We established a hazard quotient (HQ) for each receptor for inhalation, ingestion, and dermal absorption routes of exposure. When HQs ($\text{NOAEL} \div \text{Exposure Concentration}$) exceed 1.0, receptors are exposed to unsafe concentrations. Acute HQs describe the risks of a single exposure. Chronic HQs define the risk of exposure over the organism's lifespan. We estimated effects to populations of each species based on modeled smoke dispersion, deposition, and species population density estimates. We assumed similar effects could occur to other members of each taxonomic group (amphibians, reptiles, and birds) investigated in this ERA.

A complete toxicity assessment was performed for fog oil. Toxicity values were adjusted to reflect dosages to green frogs, eastern yellowbelly racers, bobwhites, and robins, when applicable, from reported laboratory animal studies and human values. Oral ingestion, inhalation, and dermal absorption were investigated. We included pharmacodynamic and pharmacokinetic information when it was identified in reviewed literature. We assessed both acute and chronic toxic effects. A TRV was developed based on procedures provided in Wentsel et al. (1994), and Calabrese and Baldwin (1993).

We modeled dispersion and deposition of fog oil from static and mobile smoke training areas. Concentrations derived from the models are used as exposure concentrations. We analyzed effects from static and mobile fog oil training, and assessed effects based on receptors receiving the concentration generated by deployment of the maximum fog oil allowable at the site (worst-case). To assess the potential that receptors would be exposed to fog oil, we investigated the life history, habitat preference, and performed food chain analyses for each species. Fog oil will be released from Musgrave Hollow, Ballard Hollow, Mush Paddle Hollow, Bailey/McCann Hollows, Babb Airfield, and Wolf Hollow. We analyzed fog oil exposure points to determine if a complete exposure pathway existed. We characterized risks associated with complete pathways.

The exposure point concentration is the concentration expected to occur at the point where receptors encounter the fog oil. To avoid underestimating risks, we used realistic biological assumptions to maximize predicted exposure to fog oil and determine exposure point concentrations under each alternative. Worst-case exposure would occur if an organism spent its entire life in the same area where smoke training (maximum yearly and daily quantity is expended) occurred. Our modeling assumed receptors would be exposed to all fog oil released on a given training range. Daily (1200 gallons) and yearly maximum quantities of fog oil specified in each alternative were incorporated into intake calculations for each species.

We conducted a study at Fort McClellan to assess the dispersion and persistence of fog oil in the environment (3D/Environmental 1996a). A summary of this study and the BRAC EIS Preliminary Risk Evaluation Report, conducted to assess risks to the human population, is included in Section X of this document. In the evaluation of the environmental fate of fog oil at Fort McClellan, we established 3 exposure sites and 1 reference site. We collected samples of tissue and media in areas where fog oil training occurred. The samples were analyzed for hydrocarbons known to occur in fog oil. Samples were taken from fog oil generators to determine if the parent fog oil undergoes transformation when it passes through the generator. Interpretation of this data was incorporated into this risk assessment. None of the media samples (soil, surface water, or sediment) or tissue (tree bark, leaves, fish, insect, or bat) samples from exposure sites showed significant differences in concentrations of fog oil hydrocarbons when compared to the reference site values. Based on the Fort McClellan study, fog oil does not bioaccumulate, bioconcentrate, or remain in the environment for an extended period of time. We do not anticipate environmental accumulation of fog oil at Fort Leonard Wood. Analysis of fog oil smoke from M56 and M157 generators showed little if any aromatic compounds. This indicates parent fog oil essentially remains unchanged after it is heated and vaporized in the generators.

A background literature search was completed to identify studies of fog oil and obscurants conducted at Fort McClellan, Alabama to determine if there had been documented effects from fog oil training at the installation. The literature search focused on studies involving amphibians, reptiles, birds, or their food sources. We reviewed all retrieved documents and summarize them in Section XI.

Section II

Problem Formulation

Section II:

Problem Formulation

2.1 OBJECTIVES

This Ecological Risk Assessment (ERA) estimates toxicological effects of proposed fog-oil training at Fort Leonard Wood to 4 species:

- amphibian: green frog, *Rana clamitans*
- reptile: eastern yellowbelly racer, *Coluber constrictor flaviventris*
- bird: northern bobwhite, *Colinus virginianus*
- bird: American robin, *Turdus migratorius*.

We assessed effects of fog oil training proposed at 6 locations on Fort Leonard Wood, Missouri. The analyses were performed for 3 training alternatives (RCP, OPTM, and EPTM). Effects to individuals of each species were assessed. Information is provided to allow for estimation of the percent of local populations of each receptor species affected by the BRAC action. We estimated the distances from fog oil smoke sources that toxicological values were exceeded by modeled fog oil smoke concentrations. Effects were evaluated for inhalation, ingestion, and dermal absorption exposure pathways for each receptor. The receptor selection process is described in Appendix X.

2.2 ASSESSMENT ENDPOINTS

The EPA presents 3 potential criteria to use when selecting assessment endpoints for any Ecological Risk Assessment: ecological relevance, susceptibility to the known or potential stressors, and representation of management goals (EPA 1996). An endpoint has ecological relevance if it helps sustain natural structure, function, or biodiversity of an ecosystem. This ERA was conducted to quantify potential toxicological risks from fog oil to amphibians, reptiles, and birds as assessment endpoints. These groups of receptors were defined as the assessment endpoints because the ERA was performed specifically to estimate potential effects from fog oil smoke training for these groups of organisms. The ecological relevance of individual receptors selected from each group was considered when selecting the species to be assessed. We chose 4 representative species to assess effects to other members in 3 vertebrate taxonomic orders (amphibians, reptiles, and birds). We evaluated effects to 2 bird species because of specific EIS scoping concerns (from the public and the U.S. Fish and Wildlife Service) about effects to non-raptors (e.g., northern bobwhite) and neotropical migrant birds (e.g., American robins). Criteria used to select receptor species are described briefly in Section IV of this document. A detailed discussion of the receptor species selection process is provided in Appendix X.

Quantification of effects to receptor species does not fully characterize effects to the ecosystem, or landscape-level ecosystem processes. A biomonitoring plan will be developed to assess ecosystem-level changes that may result from the BRAC action. This plan will monitor abiotic and biotic components of the Fort Leonard Wood ecosystem. Specific aspects of aquatic and terrestrial communities will be monitored, as well as certain receptor habitats. Selection of parameters to be included in the plan will be based on predicted potential effects to federally listed species, receptor groups assessed in this ERA, and conditions that could lead to an effect (e.g., reduction in a food source). The ecological relevance of selected receptors will be considered in the development of this biomonitoring plan.

The second criterion suggested by EPA (1996), susceptibility to stressors, was not used to select receptor species in this ERA. Limited research has been conducted to determine sensitivity of organisms to new fog oil. The military has conducted numerous studies on the toxicity of fog oil to humans, but little research has focused on ecological effects or non-human receptors. Without specific comparative studies to assess sensitivity to different

amphibians, reptiles, and birds, we could not determine which species of each taxonomic group may be more sensitive or susceptible to effects. We selected species in each group that would have the greatest potential for exposure and had sensitive life stages (e.g., tadpoles of the green frog).

We also considered differences in sensitivity in development of toxicity reference values (TRV). We applied Uncertainty Factors (UFs) to account for morphological and physiological differences between the test species and the species of concern. We believe these UFs account for differences in sensitivity and susceptibility of receptors. There are no guidelines or standards that allow for exact determination of UFs for ecological receptors (i.e., guidelines for determination of UFs are general).

The third criterion suggested by the EPA (1996) for selection of assessment endpoints, representation of management goals, was used to determine which taxonomic groups were assessed in this ERA. The installation will use information in this ERA to aid in development of the biomonitoring plan. Additionally, this information may be used to develop management guidelines to reduce or eliminate potential effects to ecological receptors from fog oil training.

The assessment of toxicological effects of fog oil training on each receptor species was evaluated as the endpoint. We examined dermal absorption, ingestion, and inhalation exposure pathways for each receptor. We assessed effects to adults and stages of each receptors life cycle that could be considered sensitive. Specifically: eggs and tadpoles of green frogs; eggs and juveniles of yellowbelly racer; eggs, chicks, and juveniles of northern bobwhite; and eggs and chicks of the American robin.

2.3 MEASUREMENT ENDPOINTS

Measurement endpoints selected here include: acute and chronic toxicity tests, NOAEL, LOAEL, and LD₅₀ (Lethal Dose). We selected appropriate toxicity values and compared these to calculated exposure point concentrations (for acute HQs) and calculated intakes (for chronic HQs).

Measurement endpoints selected for this study do not address how receptor populations will be affected. The measurement endpoints we used show effects that are

expected for individuals, such as kidney disease or mortality. We provide information about population densities that can be used to estimate the number of individuals affected. Population characteristics are generally inferred from characteristics of individuals (Suter et al. 1993). While population effects can not be predicted from toxicity tests alone, some conclusions can be made if the number of individuals affected is known. We can estimate the number of individuals that will develop kidney disease by multiplying the area of toxic concentrations by the density (individuals/area). We do not have measurement tools to describe effects to the population if, for example, 6 individuals develop kidney disease. Knowing the number of individuals affected will not describe how the stressor will impact a population, or the persistence of the population. Measurement endpoints developed for chemical stressors analyzed in this ERA have not been established. Little information is available to assess toxicity of the stressors to receptors of concern. No data exists that can be used to establish a relationship between individual mortality or illness to population effects for the stressors in this ERA.

Available data is insufficient to develop population measurement endpoints for the receptors of concern. Fort Leonard Wood will monitor certain (Indiana bats, gray bats, and bald eagles) populations as part of the biomonitoring plan. Studies have shown populations of long-lived vertebrates such as large mammals and predatory birds are more sensitive to mortality imposed on adults than are short-lived, highly fecund organisms such as quail or rabbits (Suter et al. 1993). The green frog, yellowbelly racer, northern bobwhite, and American robin are short-lived and highly fecund; there are different ages and life stages of individuals present in receptor populations. Further investigations will be required to assess if detected changes are the result of the BRAC action or another cause.

2.4 CONCEPTUAL SITE MODEL DEVELOPMENT

Figure 1 illustrates the relationship of stressors, receptors, and exposure pathways in this ERA. This conceptual site model depicts the 4 receptors as adults. We assessed effects by estimating how much stressor the receptor would intake, and compared the intake concentration to concentrations expected to result in an effect. We assessed effects to adults and other life cycle stages, as well as potential exposure of receptors during various activities (e.g., aestivating or foraging).

Risks were estimated using the Hazard Quotient (HQ) approach. We considered HQ values greater than 1.0 an effect. We calculated an acute (single exposure) and a chronic (lifetime exposure) HQ for each receptor and receptor life cycle stage for each stressor. The HQ provides a point estimate of risk for the exposure pathway, receptor/receptor activity, and stressor. Because of the complexity of the BRAC action, and lack of accurate predictions of exact training locations, dates, and schedules, it is impossible to perform any type of probabilistic risk estimate. HQs are commonly used in human health risk assessments for non-carcinogenic risks as well as Ecological Risk Assessments, and are an acceptable technique to estimate risk.

Receptors may be exposed to stressors through inhalation, ingestion, and dermal absorption pathways. Pathways where receptors directly contact the stressor may yield direct effects. We quantitatively assessed direct effects by calculating an HQ for each direct pathway. Indirect effects are those that are removed in time or space from the receptor. We did not quantitatively evaluate indirect effects such as reduction in prey by determining an HQ for the prey population. Indirect effects are addressed qualitatively in this document.

HQs were calculated at predicted exposure locations at distances from chemical sources. This allows estimation of the number of receptors affected by each stressor. This approach is appropriate because we do not know exactly where receptors and stressor source points will be when the BRAC action is implemented. Receptors were assumed to be evenly distributed in each fog oil smoke training area.

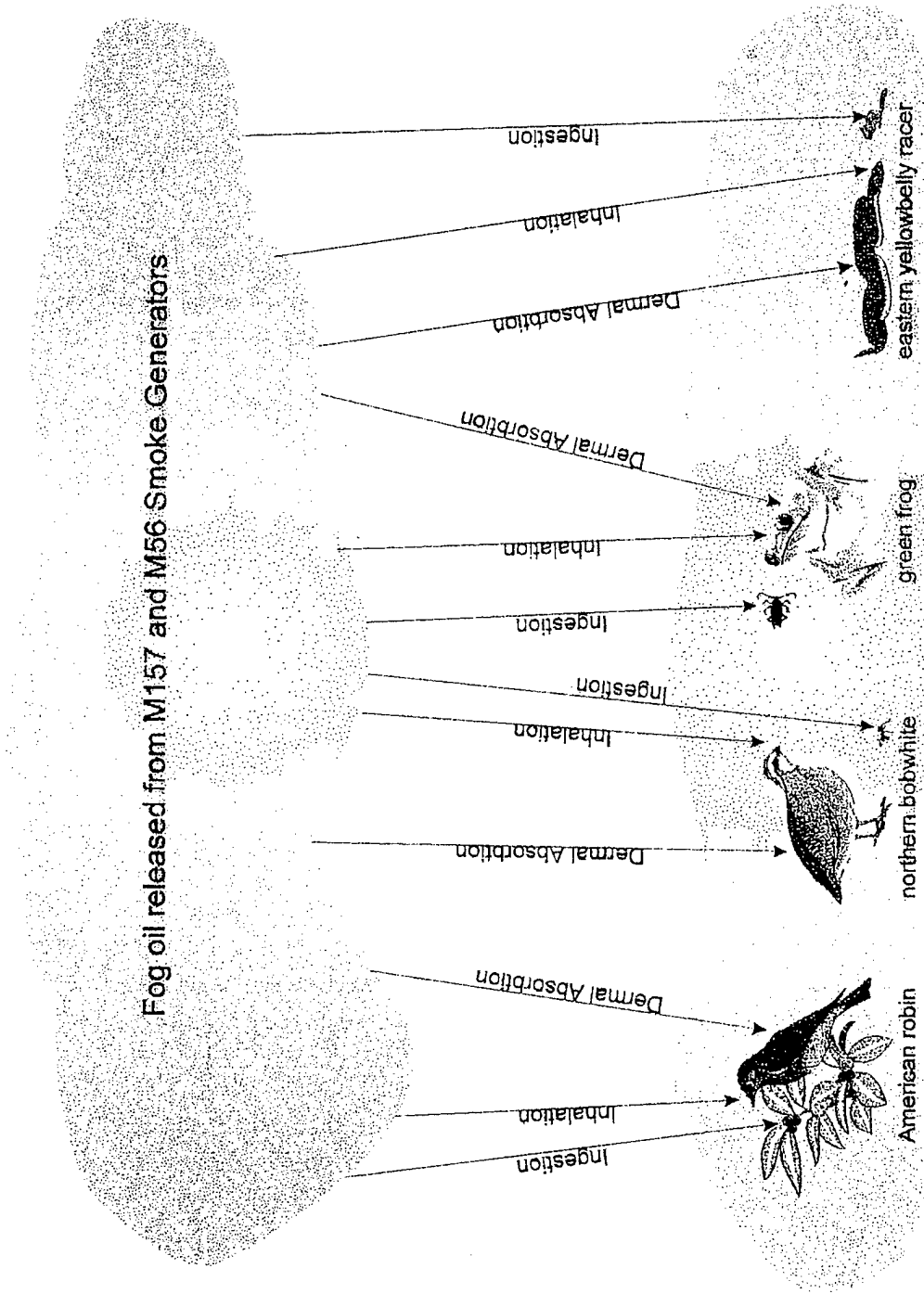


FIGURE 1. Conceptual site model of exposure routes for the green frog, eastern yellowbelly racer, American robin, and northern bobwhite.

Section III
Site Description

Section III:

Site Description

3.1 FORT LEONARD WOOD

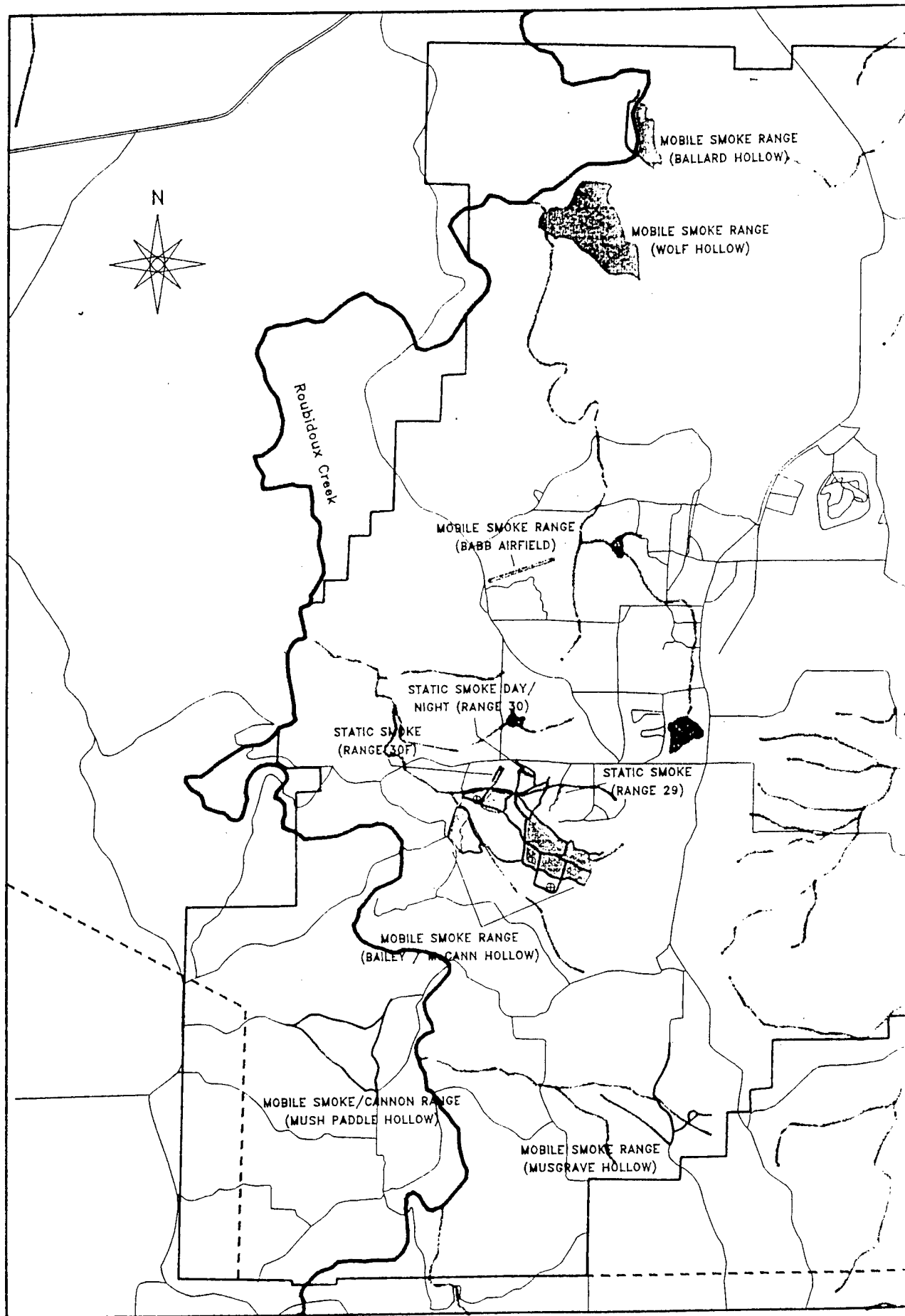
Fort Leonard Wood is in Pulaski County, Missouri. A complete description of the installation and its physiography can be found in the Preliminary Draft Environmental Impact Statement, Relocation of U.S. Army Military Chemical School and U.S. Army Police School to Fort Leonard Wood, Missouri, Volume I - Main Report (HBA 1996).

Volume III, Appendix F of the Draft Environmental Impact Statement (HBA 1996) contains a list of mammals, birds, fish, freshwater mussels, insects, plants, and neotropical migrant birds identified or known to occur on Fort Leonard Wood. Lists of amphibians and reptiles on the installation are available in Sternburg et al. (1996).

3.2 PROPOSED SMOKE TRAINING AREAS

We investigated 6 mobile fog oil training areas, including 4 designated in the Fort Leonard Wood Air Permit Application - Project/Facility No. 3860-0004-015 Issued by State of Missouri Department of Natural Resources (April 1995). The 6 sites occur in Musgrave Hollow, Ballard Hollow, Mush Paddle Hollow, Bailey/McCann Hollow, Wolf Hollow, and Babb Airfield (Figure 2). Mobile smoke training is proposed at all 6 locations. Static smoke training is proposed at 3 sites in the Bailey/McCann Hollow area.

1



2

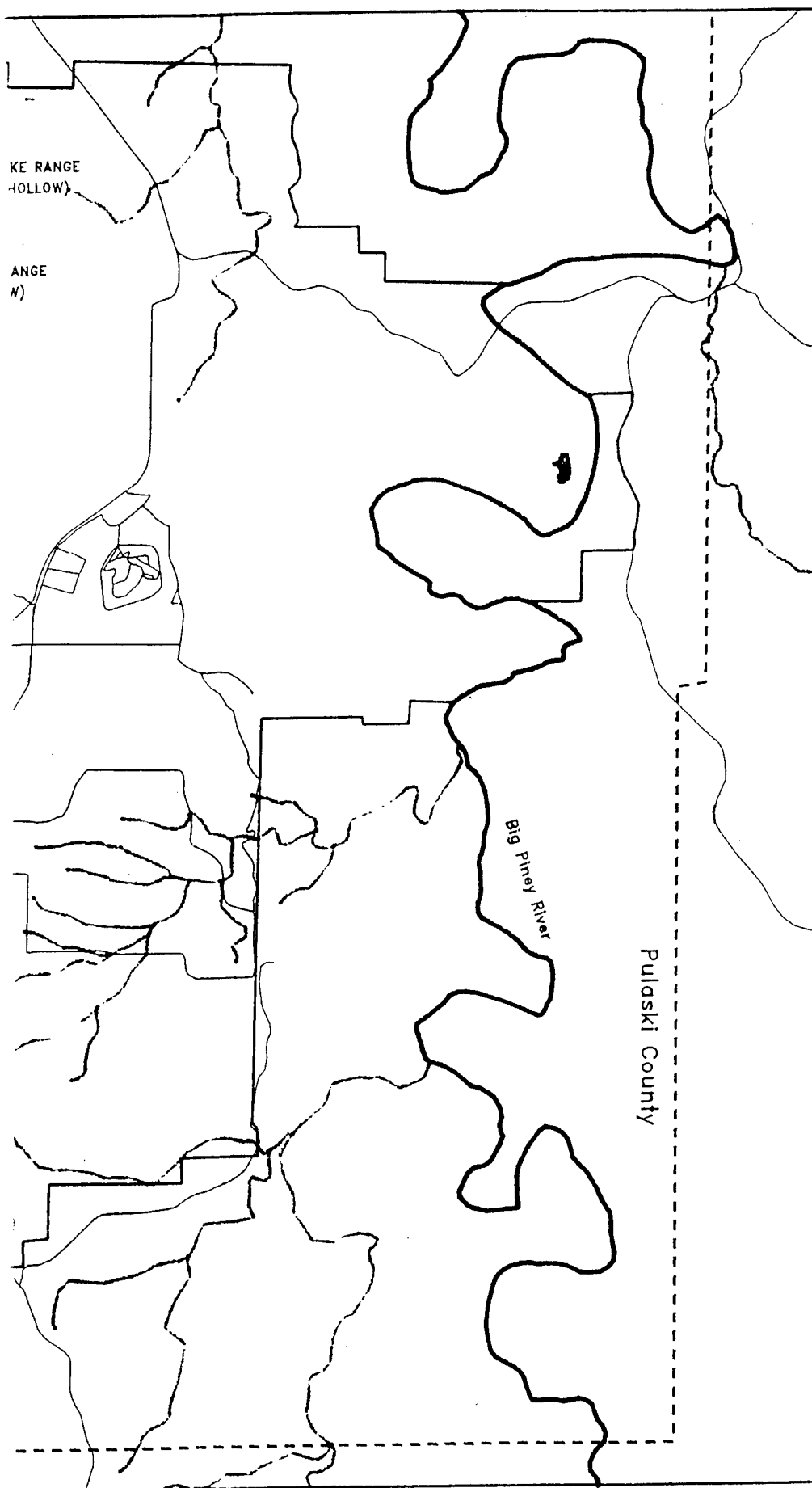








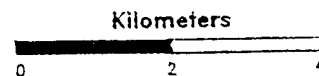


FIGURE 2. PROPOSED FOG OIL SMOKE
AREAS AT FORT LEONARD WOOD, MISSOURI

ENVIRONMENTAL IMPACT STATEMENT
RELOCATION OF U.S. ARMY CHEMICAL
AND U.S. ARMY MILITARY POLICE SCHOOL
FORT LEONARD WOOD, MISSOURI

ECOLOGICAL RISK ASSESSMENT: EFFECTS OF
OIL OBSCURANT ON AMPHIBIANS, REPTILES,
AND BIRDS AT FORT LEONARD WOOD, MISSOURI

-  Static Smoke Deployment Area
-  Offroad Mobile Smoke Deployment Area
-  Mobile Smoke Deployment Road
-  Smoke Training Tower
-  Fort Leonard Wood Boundary
-  County Boundary
-  Pond
-  River / Stream











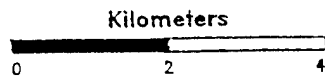
3D/ENVIRONMENTAL

FIGURE 2. PROPOSED FOG OIL SMOKE TRAINING
AREAS AT FORT LEONARD WOOD, MISSOURI.

ENVIRONMENTAL IMPACT STATEMENT
RELOCATION OF U.S. ARMY CHEMICAL SCHOOL
AND U.S. ARMY MILITARY POLICE SCHOOL TO
FORT LEONARD WOOD, MISSOURI

ECOLOGICAL RISK ASSESSMENT: EFFECT OF FOG
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-  Static Smoke Deployment Area
-  Offroad Mobile Smoke Deployment Area
-  Mobile Smoke Deployment Road
-  Smoke Training Tower
-  Fort Leonard Wood Boundary
-  County Boundary
-  Pond
-  River / Stream



3D/ENVIRONMENTAL

Following are brief descriptions of smoke training sites. Most of the training areas are very similar in their physiography, geology, soils, biota, and terrain. Because of these similarities, we assumed stressors would disperse similarly from each proposed mobile and static training area. We used average physiographic values for Fort Leonard Wood as input parameters in the air dispersion model. Average values for surface roughness and hilly terrain, for example, should adequately predict fog oil dispersion on Fort Leonard Wood at any release location.

3.2.1 Musgrave Hollow

Musgrave Hollow is near the southern edge of the installation, east of Cannon Range. Musgrave Hollow contains highly fragmented forest patches. Prescribed and accidental burning keep forests in most of this area in an early successional stage.

The stream in Musgrave Hollow is fed by a spring that flows most of the year. In the driest seasons, the stream averages 7.5 m wide. Upland areas are dominated by oaks (*Quercus* spp.) averaging 20 cm dbh. Soil types in the hollow are Cedargap cherty silt loam in the riparian zone, Claiborne and Viraton silt loams on the pine plantations, and Poynor cherty silt loam on the uplands.

3.2.2 Ballard Hollow

Ballard Hollow is near the northern border of Fort Leonard Wood, in the Roubidoux Creek valley, south of Cedar Hill Cemetery. West of Roubidoux Creek, topography in Ballard Hollow is steep and vegetation is forested. Ballard Hollow is unforested floodplain east of Roubidoux Creek.

Roubidoux Creek is ca. 25 m wide in Ballard Hollow and flows from south to north. The valley is dominated by sycamores (*Platanus occidentalis*) averaging 35 cm dbh. Uplands west of Roubidoux Creek are dominated by oaks averaging 30 cm dbh. Some old field areas are south of the oak forest on the west side of the creek. Soil types include: Nolin silt loam in the riparian zone, Kickapoo fine sandy loam and Claiborne silt loam on slopes, and Clarksville-Gepp very cherty silt loams on uplands.

3.2.3 Mush Paddle Hollow

Mush Paddle Hollow is located in the western portion of Cannon Range, in the southwest corner of Fort Leonard Wood. The stream in Mush Paddle Hollow flows seasonally. Soil types in Mush Paddle Hollow are Cedargap cherty silt loam in the riparian zone, Poynor and Clarksville-Gepp very cherty silt loams on the slopes, and Doniphan very cherty silt loam on upland areas of Cannon Range.

3.2.4 Bailey/McCann Hollows

Bailey/McCann Hollows are located southwest of Bloodland Lake and northeast of Cannon Range. Most of the area between Bailey and McCann hollows is to be used for training. Past and present training, prescribed and accidental burns, and firebreaks have cleared much of forest in this area.

Streams in Bailey/McCann hollows are ca. 6 m wide and flow seasonally. Vegetation along the streams is uniformly small elms (*Ulmus* spp.) and maples (*Acer* spp.). Stands dominated by oaks and hickories (*Carya* spp.) with trees averaging 20 cm dbh are scattered between the hollows. Soil types are Cedargap cherty silt loam in riparian zones, Clarksville very cherty silt loam and Gunlock silt loam on the slopes, and Ocie cherty silt loam on uplands.

Range 29, Range 30, and Range 30F are within the Bailey Hollow area. They are highly disturbed savanna areas with a strip of mature forest 100 meters wide along an intermittent stream. Soils types are Cedargap cherty silt loam in riparian zones, Clarksville very cherty silt loam, and Lebanon silt loam on the uplands.

3.2.5 Wolf Hollow

Wolf Hollow is a mature oak-hickory forest. Most of the Wolf Hollow area is owned by Mark Twain National Forest and is leased to Fort Leonard Wood. The primary soil type is Clarksville-Gepp very cherty silt loam. Other soil types in Wolf Hollow are Gepp-Bardley-Clarksville very cherty silt loam, Doniphan very cherty silt loam, Gepp-Rock outcrop, and Lebanon silt loam.

3.2.6 Babb Airfield

Babb airfield is a periodically mowed grassy area clear of trees. The only soil type is Lebanon silt loam.

Section IV

Receptor Characterization

Section IV:

Receptor Characterization

In this ERA, we assessed risks to four species from exposure to fog oil. Three criteria were used in selecting these species:

- availability of information to assist in estimating exposure (habitat preference, reproductive biology, population density, diet diversity, and other life history characteristics)
- geographic distribution that includes Fort Leonard Wood and Fort McClellan
- physiological and behavioral similarity of selected receptors to species of each taxa occupying areas at Fort Leonard Wood where exposure will occur

A more thorough discussion of the selection process is provided in Appendix X.

4.1 GREEN FROGS

4.1.1 Status and Range

Rana clamitans is an abundant species, with a range extending from Maine to North Carolina; west to Minnesota and eastern Oklahoma, but absent from a large part of Illinois (Figure 3). Green frogs may be found in shallow fresh water (e.g. springs, creeks, and ditches, and along edges of lakes and ponds). Densities of this species have been documented at 476 adult males, and 567 adult females per hectare in a pond in New York (Wells 1978). They are found over most of Missouri with the exception of the northwest part of the state (Figure 4).

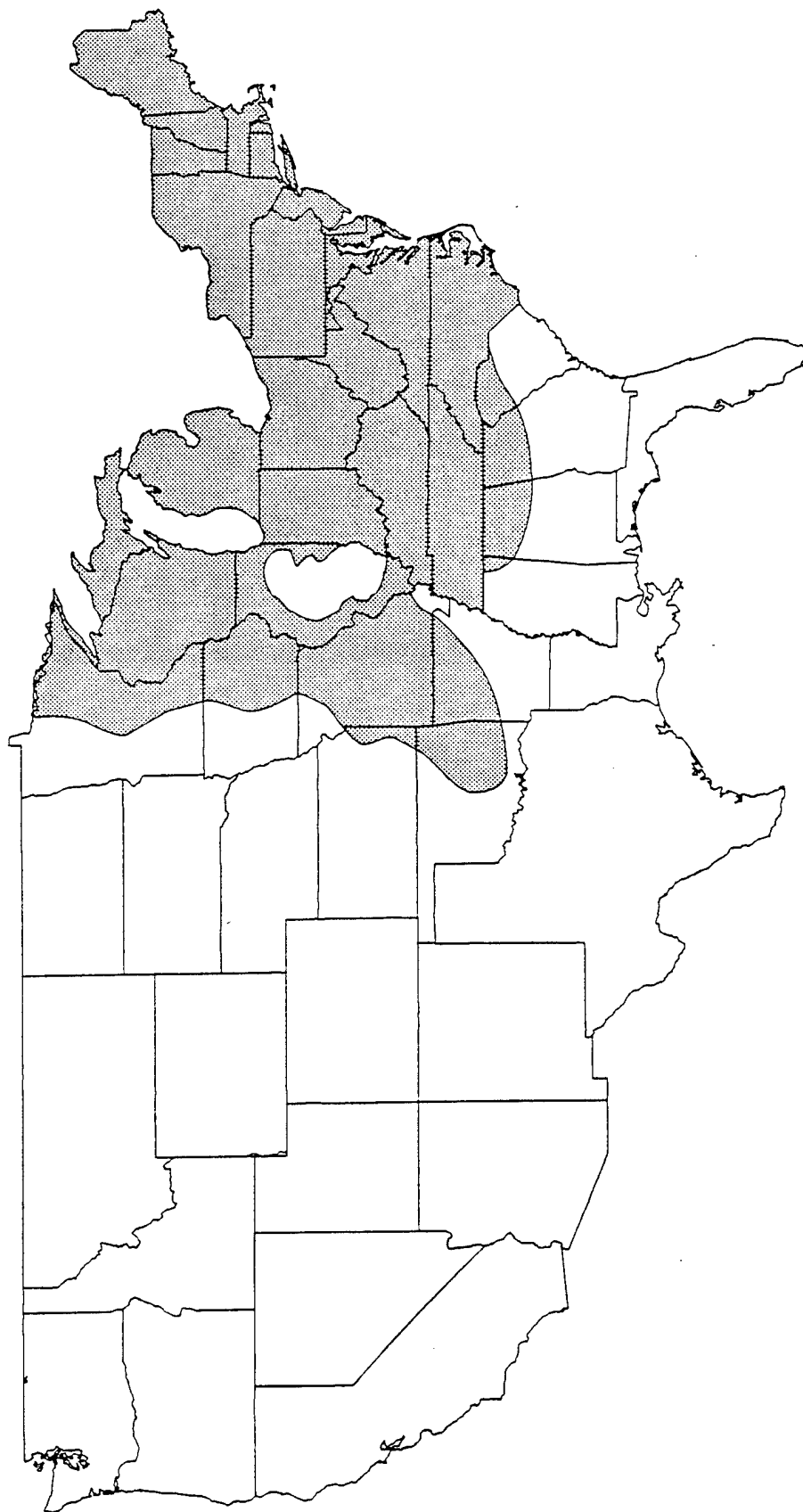


FIGURE 3. Range of the green frog in the United States.

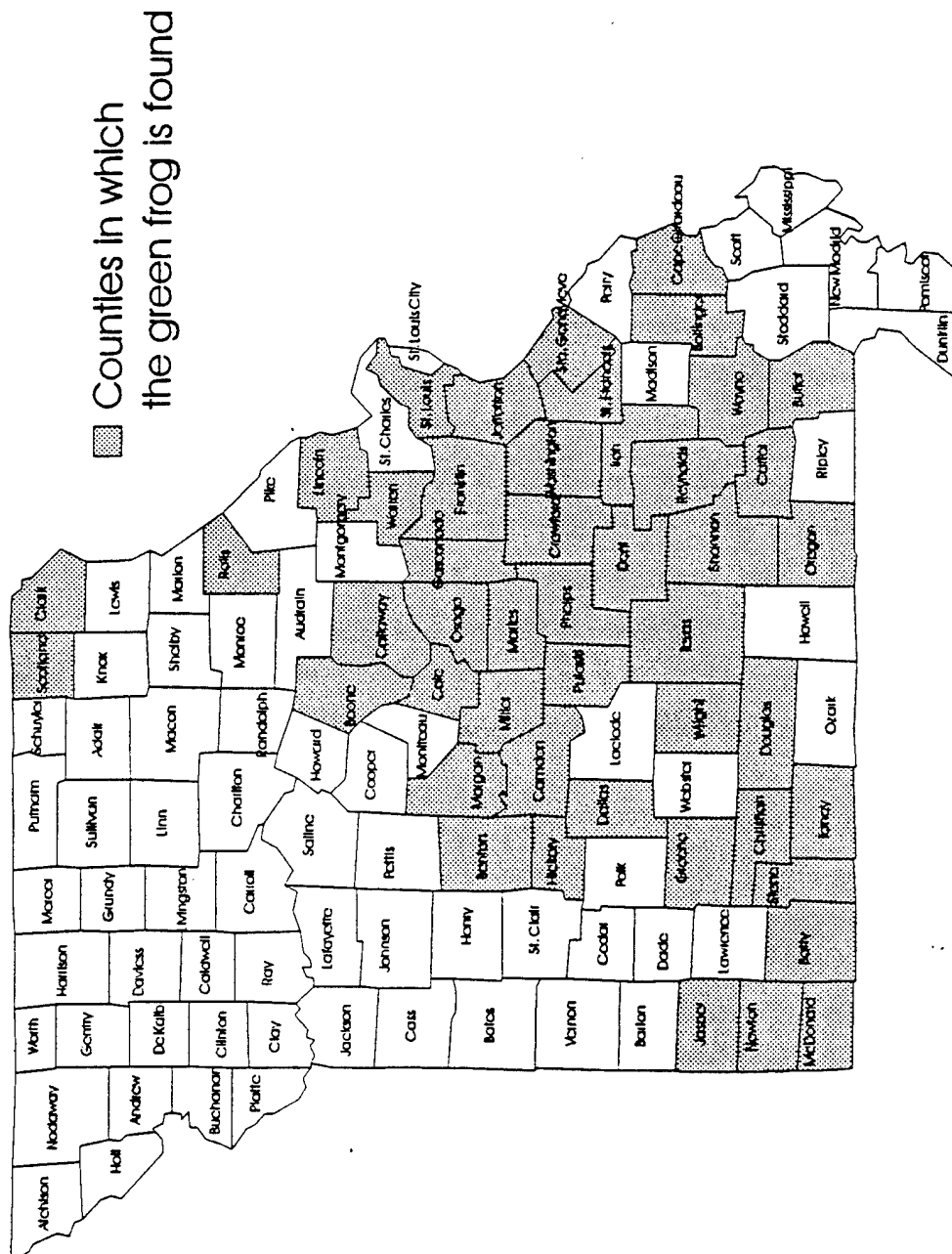


FIGURE 4. Ranges of the green frog in Missouri.

4.1.2 Physical Characteristics

Green frogs are highly variable in color, ranging from green to greenish brown above, with numerous dark brown or grayish dorsal spots or blotches usually present. The belly is white, with some dark spots or mottling under legs and head. The throat of adult males is bright yellow. Females usually are larger than males (Smith 1961). Additional physical characteristics are listed in Table 1.

4.1.3 Life History

Green frogs are active between April and mid-October.. Green frogs typically are found in riparian and aquatic habitats. In Missouri, this species is likely to be found in creeks and streams. A Boone County population of green frogs was observed residing in a wet cave (Resetarits, pers. comm.). Adult green frogs are amphibious. They live at the edges of water bodies and enter the water to catch prey, flee danger, and spawn (Behler and King 1979). Martof (1953b) found the green frog's activity period varies by frog size, with larger individuals primarily being nocturnal, small green frogs being diurnal, and middle-sized individuals being equally active during day and night. The species typically is solitary, especially in small stream habitats, where each deep pool may have a single resident adult.

Green frogs also can be found among rotting debris of fallen trees (Behler and King 1979, Conant and Collins 1991). Juveniles prefer more shallow aquatic habitats with denser vegetation than those preferred by adults (Martof 1953b). McAlpine and Dilworth (1989) observed green frogs inhabit aquatic habitats approximately two-thirds of the time and terrestrial habitats the remaining time. Ponds used by green frogs usually are more permanent than those used by other species (Pough and Kamel 1984).

TABLE 1. Physical characteristics used to assess effects to adult green frogs.

Factor	Mean
Body weight	44-49 g*
Total body length	5.7-8.9 cm*
Surface area	17 cm ² *
Food ingestion rate	0.833 g/day**
Inhalation rate	2.5 x 10 ⁻⁴ m ³ /day**

* EPA 1993

** value was calculated using allometric equations for frogs (EPA 1993)

Adult green frogs overwinter by hibernating underground or underwater from fall to spring (Ryan 1953). Martof (1956a) observed frogs hibernating in mud and debris at the bottom of streams. Jenssen and Klimstra (1966) noted adults usually hibernate in restricted chambers within rock piles or beneath plant debris, while juveniles are more often found in locations with access to passing prey. Frogs begin emerging when mean daily temperature is approximately 4.4°C and maximum temperature is about 15.6°C for 3-4 days (Martof 1953b). Juvenile frogs enter and exit hibernation after adult frogs (Martof 1956a).

The reproductive biology of green frogs in Missouri has not been studied. Generally, green frogs breed from late April until late August, with June as the most likely peak breeding month. Green frogs reach sexual maturity 1 - 2 years after metamorphosis. Some individuals may reach maturity at the end of the first year, but not attempt to breed until the second year (Martof 1956a, 1956b). Breeding occurs at sites with permanent standing water, including ponds, swamps, and sloughs. There usually is intense competition for choice calling sites. The male with the best breeding site (characterized by an abundance of emergent plants) has a better chance to attract gravid females (Wells 1977).

Spawning generally occurs at night (Smith 1961, Wells 1976). Egg masses are contained in films of jelly and deposited in emergent, floating, or submerged vegetation. Each female can lay over 4000 eggs (Wright and Wright 1949). The small, dark tadpoles begin hatching in approximately 3 days, depending on water temperature (Behler and King 1979, Martof 1956a, Ryan 1953). Most females lay 1 clutch per year, although some lay 2, about 3 or 4 weeks apart (Wells 1976). In natural populations, green frogs live approximately 5 years.

In the southern part of their range, green frog tadpoles metamorphose into frogs the season of hatching, the northern portion of the range, 1 or 2 years pass before transformation (Martof 1956b). Newly transformed green frogs average 28 mm in body length. Tadpoles that hatch from egg masses laid in spring usually metamorphose that fall, while those hatching from summer-laid eggs typically overwinter as tadpoles and transform the following spring (Pough and Kamel 1984). Ryan (1953) found most tadpoles are 2.6 - 3.8 cm at the time of metamorphosis. Those that transform in late June or early July grow rapidly, adding 1.4 - 2.0 cm in the first 2 months and 0.4 - 0.7 cm more before hibernation. Tadpoles that metamorphose at approximately 3.1 cm may reach between 5.0 - 5.8 cm before hibernation (Ryan 1953). Newly transformed frogs often move from lakes and ponds where they were tadpoles to shallow stream banks, usually during periods of rain (Martof 1953b).

During the breeding season, green frog densities at breeding ponds can reach several hundred individuals per hectare (Wells 1978). Adult males space breeding territories about 2 - 3 m apart (Martof 1953a). Adults are solitary during the nonbreeding season (Smith 1956).

4.1.4 Foraging Behavior

Adult green frogs feed along shoreline vegetation. There is a pronounced reduction in food consumption during the breeding period for both males and females (Mele 1980). During the breeding season, males spend most of their energy defending breeding territories, and females expend their energy producing eggs (Wells 1977). Fat reserves acquired during the prebreeding period compensate for reduced food intake during breeding (Mele 1980). Jenssen and Klimstra (1966) found green frogs consume most of their food in the spring. Juveniles eat about half the volume of food as do adults over the course of a year (Jenssen and Klimstra 1966). Tadpoles are herbivorous (Degraaf and Rudis 1983). Green frogs eat their cast skins following molting, which frequently occurs during midsummer (Hamilton 1948).

4.1.5 Prey Selection

Green frogs consume insects, worms, small fish, crayfish, other crustaceans, newts, spiders, small frogs, and mollusks. Stewart and Sandison (1973) found terrestrial beetles often are their most important food item, but noted any locally abundant insect along the shoreline may be consumed in large numbers. Food eaten in the spring, summer, and fall

consists largely of terrestrial prey, whereas winter food is composed mostly of aquatic prey (Jenssen and Klimstra 1966). A food chain analysis and exposure pathway analysis for this species is provided in Section VII.

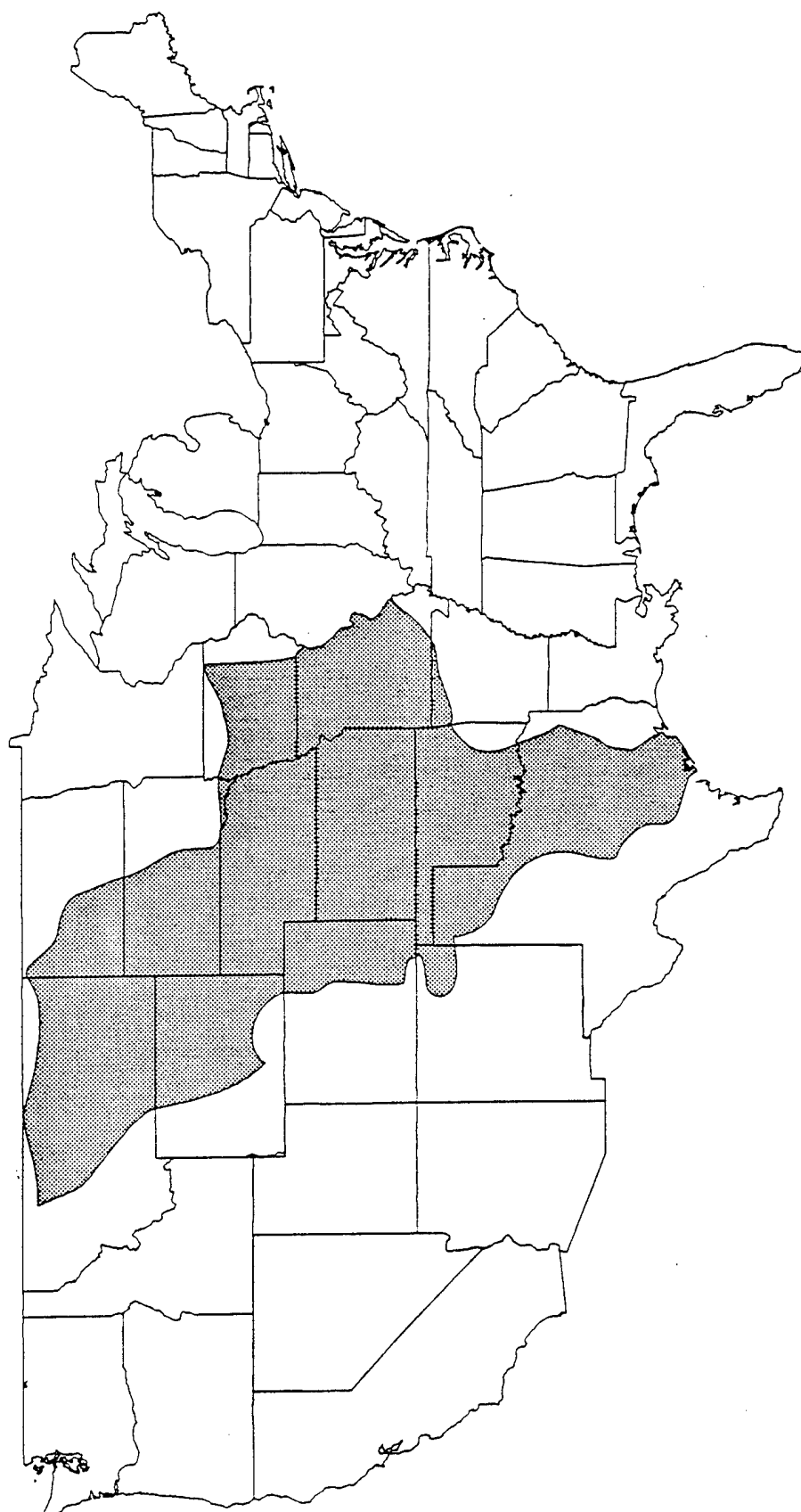
4.2 EASTERN YELLOWBELLY RACERS

4.2.1 Status and Range

The eastern yellowbelly racer (*Coluber constrictor flaviventris*) is 1 of 11 subspecies of racer snakes. These slender, fast-moving snakes are among the most common large snakes in North America (Smith 1961). Racers can be found in a wide variety of habitats including fields, grasslands, brushy areas, open woods, rocky wooded hillsides, grassy-bordered streams, roadsides, and marshes. Their range extends from Montana, western North Dakota, and Iowa to Texas and extreme southwest Louisiana (Figure 5). Density of this species has been documented at 7 adults per hectare in an upland prairie in Kansas (Fitch 1963). They are found nearly statewide in Missouri (Figure 6).

4.2.2 Physical Characteristics

Eastern yellowbelly racers are large, smooth-scaled snakes. Highly variable in color, the dorsum is plain brown, gray, olive, or dull to dark blue. The belly is yellowish, varying from pale cream in some parts of their range to bright lemon-yellow in others. Racers have a slender body, proportionately long tail, and the anal scale is divided. Hatchlings and young racers are strongly patterned with closely spaced gray or brown mid-dorsal blotches and smaller, alternating spots on the sides over a tan ground color. The belly of juvenile racers is normally cream colored with some dark gray speckling. The juvenile pattern fades with age, and by the third season most or all dorsal spots disappear. By the time females reach sexual maturity (3 years), they are 30% heavier than males (Brown and Parker 1984). The largest Missouri specimen recorded is 133 cm in length. Additional physical characteristics are identified in Table 2.



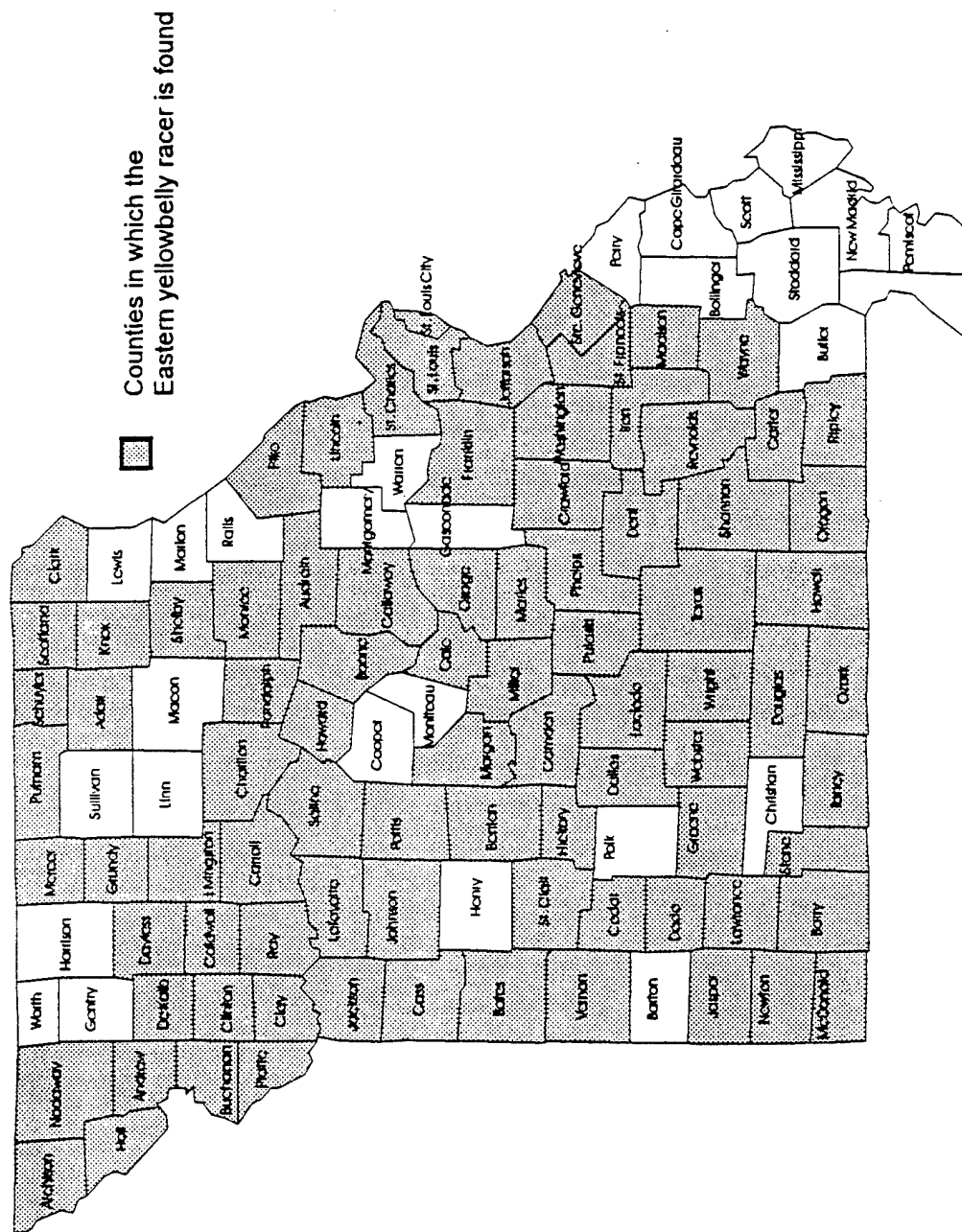


FIGURE 6. Range of the eastern yellowbelly racer in Missouri.

TABLE 2. Physical characteristics used to assess effects to adult eastern yellowbelly racers.

Factor	Mean
Body weight	250 g*
Total body length	76-127 cm*
Surface area	131 cm ² **
Food ingestion rate	22 g/day**
Inhalation rate	4.1 x 10 ⁻³ m ³ /day***

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

***Inhalation rate for a water snake (*Nerodia sipedon*) substituted for racer (EPA 1993)

4.2.3 Life History

Eastern yellowbelly racers are active from March to November. Fitch (1963) conducted an extensive study of this species in eastern Kansas, and reported racers to be active when air temperatures are 15-32°C. The species seems to prefer a temperature range of 25-27°C. When temperatures are moderate, racers spend much of their time during the day in the open, above ground; at high temperatures, they may retreat underground (Brown and Parker 1982). Racers are diurnal and can be observed searching for food or basking on sunny days. They are more likely to forage actively through the day than other snakes.

This fast moving snake depends on speed and agility to escape predators or overtake prey. Like other small animals, racers take refuge in clumps of vegetation or mammal burrows, or hide in stone or rock piles. When searching for food or being pursued, racers may climb or swim (Smith 1961).

Eastern yellowbelly racers inhabit native prairies, grasslands, pastures, brushy areas, and along forest edges. During spring and fall, racers can be found on rocky, wooded, south-facing hillsides. The species overwinters in similar habitat, or uses mammal burrows as winter retreats. Hibernation begins in autumn. Racers hibernate in congregations of tens to hundreds of snakes (Brown and Parker 1984), sometimes with copperheads (*Agkistrodon contortrix*) and rattlesnakes (*Crotalus* spp.), often using deep rock crevices (Parker and Brown 1973). Racers (and black rat snakes) were reported to use a small sandstone cave as a

hibernaculum. They were observed using a thermal gradient inside the cave to select optimum overwintering conditions (Sexton and Hunt 1980). Drda (1968) found a few racers overwintering in a cave in Jefferson County, Missouri. Racers are among the earliest snakes to emerge from hibernation (Degraaf and Rudis 1983).

Males reach sexual maturity in 13-14 months and females mature in 2-3 years (Behler and King 1979, Brown and Parker 1984). Courtship and mating occur soon after racers emerge from hibernacula, usually during early April. Adult females produce, at most, a single clutch each year. Some reproduce only in alternate years.

Just prior to egg-laying, the eggs can account for over 40% of a gravid female's body weight (Brown and Parker 1984). Egg laying takes place from mid-June to late July. Each female lays 8-21 eggs. Eggs are laid under logs, in rotten stumps, or in abandoned mammal burrows. Eggs may double in size before hatching by absorbing water from the surrounding soil (Fitch 1963). Racer eggs hatch within 2-3 months.

At hatching racers weigh approximately 8-9 g, and average 27.4 cm in length (Fitch 1963). Weight gain during the first year is rapid, with both sexes increasing their weight after hatching by approximately 3.2 times in the first year (Brown and Parker 1984). Juvenile snakes suffer higher mortality rates (80%) than adult snakes (20%) (Brown and Parker 1984).

Between 0.3 - 7.0 active snakes per hectare have been recorded (Fitch 1963, Turner 1977). Although not territorial, racers have been found to have a home range which averages about 1.8 ha for females and 3.0 ha for males (Fitch 1963). Data describing population densities are limited due to the difficulty in accurately censusing snakes.

4.2.4 Foraging Behavior

Racers are foraging generalists that actively seek prey. Prey is consumed whole and alive. Racers often capture new prey before fully digesting previously captured prey (Fitch 1982). Males tend to spend more time climbing in low shrubs and trees and consuming insects (Fitch 1982).

4.2.5 Prey Selection

Their varied diet includes small mammals, insects, amphibians, small birds, birds' eggs, snakes, and lizards (Brown and Parker 1982, Fitch 1963, Klimstra 1959). In early spring eastern yellowbelly racers feed primarily on mammals, and from May to October primarily feed on insects (Klimstra 1959). Females, which are larger than males, tend to consume a higher proportion of vertebrate prey than do males (Fitch 1982). A food chain analysis and exposure pathway model for this species is provided in Section VII.

4.3 NORTHERN BOBWHITES

4.3.1 Status and Range

The range of northern bobwhites (*Colinus virginianus*) extends from the Atlantic coast west to eastern Texas, eastern Colorado, and the Dakotas (Figure 7). It is the most widespread North American quail species. The species is found statewide in Missouri. Density of northern bobwhites may vary from year to year and from one location to another, depending on availability of food and cover (Roseberry and Klimstra 1984). Densities are highest in autumn, at the end of the breeding season. In the Ozarks and Ozark Border, average density of northern bobwhites is 1 bird per hectare (Robbins and Esteria 1992).

4.3.2 Physical Characteristics

Northern bobwhites are ground dwelling, gallinaceous birds with short, heavy bills, adapted for foraging for seeds and insects on the ground. Overall coloration is mottled reddish-brown with a short gray tail. The throat and eye stripe are white in males and buffy in females. Juveniles are smaller with duller coloration. Males and females are similar in size, however females are heaviest in spring when laying eggs and males are lightest in spring (Hamilton 1957, Roseberry and Klimstra 1971). Juveniles tend to weigh slightly less than adults through winter (Hamilton 1957, Roseberry and Klimstra 1971). Koerth and Guthery (1987) found both males and females tend to maintain between 9-11% body fat (as a percentage of a dry body weight) throughout the year in southern Texas. More northern populations may maintain higher body fat ratios, particularly prior to breeding (McRae and Dimmick 1982). Additional physical characteristics are listed in Table 3.

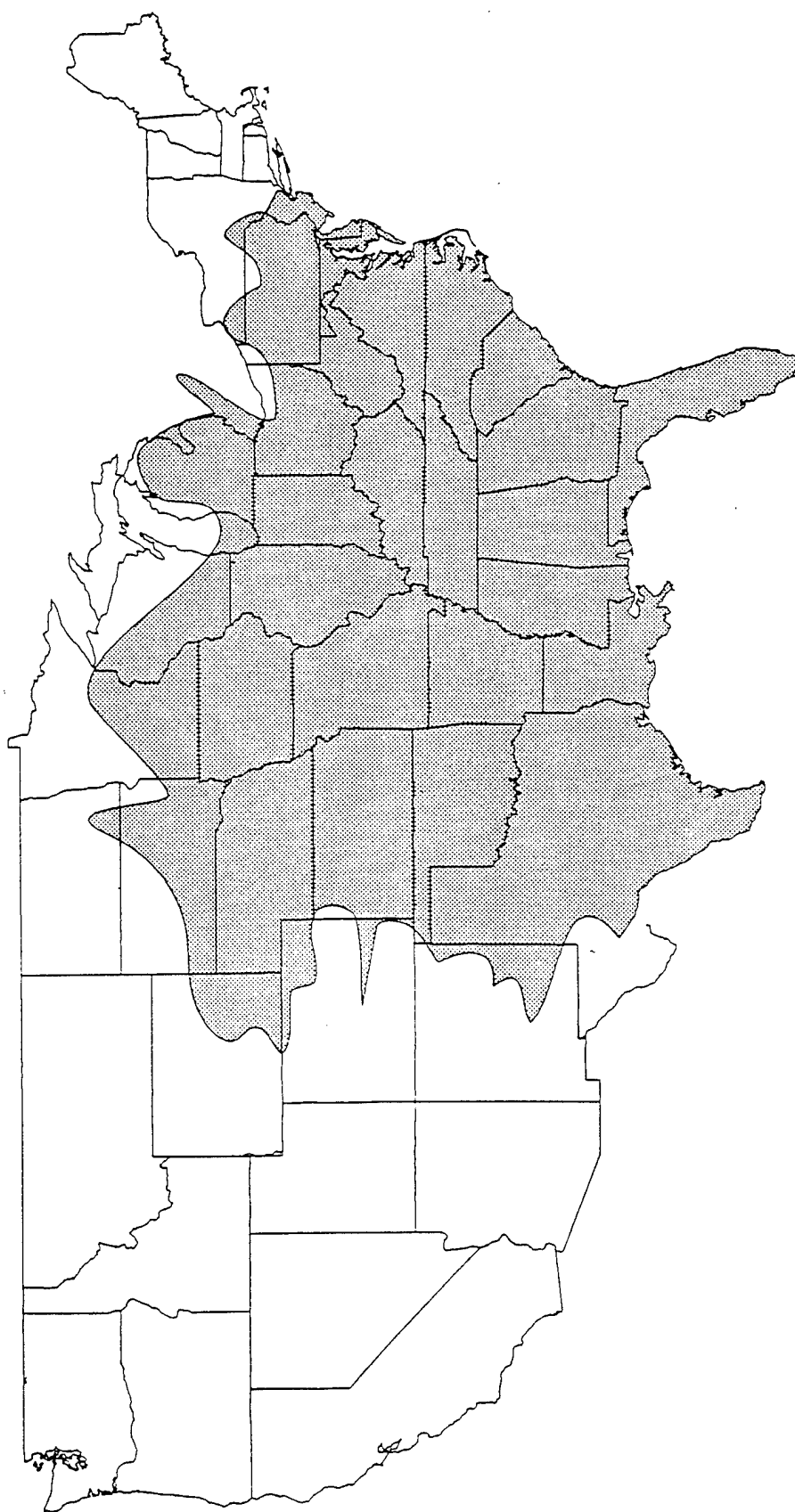


FIGURE 7. Range of the northern bobwhite in the United States.

TABLE 3. Physical characteristics used to assess effects to adult northern bobwhites.

Factor	Mean
Body weight	200 g*
Total body length	25 cm*
Surface area	320 cm ² **
Food ingestion rate	16 g/day**
Inhalation rate	0.11 m ³ /day*

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

4.3.3 Life History

Northern bobwhites prefer old weed patches and stubble fields (buckwheat, millet, rye, wheat, oats and other grains). Briar patches, thickets, woodlots, and brush are used for cover. Coveys stay together in winter for warmth and protection, but disperse in spring prior to mating. During breeding season, grasslands, idle fields, and pastures are preferred habitat. Dry, powdery soils are important for dust bathing (Johnsgard 1988). During winter, they require wooded cover with understory for daytime cover, preferably adjacent to open fields for foraging (Yoho and Dimmick 1972).

Northern bobwhites typically roost at night in areas with short and sparse vegetation (Schroeder 1985). They roost in a sheltered spot such as under evergreens, or near dense briars. They congregate in a circle with bodies packed close together and heads facing out. If not disturbed, they will occupy the same spot for many nights.

Northern bobwhites nest on the ground along old fence rows with long, thick grass and briars, or in brushy corners of old fields and brush piles. Nests usually are constructed by the female. She selects a spot where dense vegetation affords concealment. A hollow is created and lined with dead grass. She conceals the nest by weaving a dome of dead grass with a small opening just large enough for the bird. The nest is 2-6 cm deep and 10-12 cm across.

Bobwhites lay 12 - 20 eggs but typically lay 14-16 eggs. Eggs are 30 X 24 mm, and subpyriform in shape. Both parents incubate eggs over 23-24 days. Young are precocial; chicks follow adults and forage immediately after hatching. When the chicks are 2-3 weeks old the male cares for the young while the female lays a second clutch. They raise 2 broods per season. Clutch size and nesting success decline as the season progresses (Roseberry and

Klimstra 1984). Nests commonly are ruined by predators. Mortality of adults and juveniles is high, with 70-85% of birds surviving less than 1 year (Brownie et al. 1985, Lehmann 1984).

During the breeding season, the home range of the bobwhite includes foraging areas, cover, and nest site, and may encompass several hectares. Mated males and incubating females have the smallest spring and summer home ranges (2.4 - 12.6 ha). Bachelor males and post-nesting males and females have much larger home ranges (24.7 - 26.2 ha). Bobwhites tend to use a portion of their home range more intensively than the remainder of the range (Urban 1972). In the fall and winter, the range of each bobwhite covey must include adequate open foraging areas and cover, typically shrubby or woody thickets (Rosene 1969). Each covey may utilize an area of several hectares (Yoho and Dimmick 1972).

Northern bobwhites frequently bathe in dust, although the reason for this behavior is debated. Stoddard (1931) suggested dust bathing helps control ectoparasites. Borchelt and Duncan (1974) suggest dust bathing helps control the amount of oil on quail's feathers. Experiments by Driver et al. (1991) indicated ingestion of materials preened from feathers and direct dermal uptake can be significant exposure pathways for quail exposed to aerial application of pesticides. Dust bathing may provide a significant exposure route for bobwhites using contaminated soils.

Northern bobwhites are year-round residents over their entire range but may disperse locally to different cover types or altitudes with the changing season (Lehmann 1984). Most birds winter in wooded or brushy areas, returning to more open habitats in spring for the breeding season (Lehmann 1984, Rosene 1969). When autumn approaches, they travel in coveys made up of family parties or large flocks. These flocks may migrate short distances to more suitable feeding grounds, or to escape harsh weather. Populations nesting at higher elevations move to lower ground where winters are less severe (Stoddard 1931).

4.3.4 Foraging Behavior

Northern bobwhites forage primarily on the ground in a light litter layer less than 5 cm deep (Rosene 1969). Typically they begin foraging approximately 1 hour after sunrise. They feed until their crop is full, then rest, dust, and preen. About 2 hours prior to sunset, they return to their feeding grounds before roosting.

In some areas, bobwhites acquire water solely from dew, succulent plants, and insects (Stoddard 1931). In arid areas or in times of drought, bobwhite need surface water for drinking (Johnsgard 1988, Lehmann 1984, Prasad and Guthery 1986). Females need more water than males during the breeding season, and both sexes require more water in the winter when their diet is comprised primarily of seeds with low water content (Koerth and Guthery 1990). Measurements of captive quail indicate a daily water requirement of up to 13% of their body mass, yet water intake requirements for free-ranging quail may be 14-21% of body mass per day (Koerth and Guthery 1990). In the absence of adequate water, females may fail to reproduce (Koerth and Guthery 1991).

4.3.5 Food/Prey Selection

Northern bobwhites feed on seeds by gleaning from the ground and low vegetation. They eat grain, seeds of various weeds, berries, wild grapes, and other mast. Insects comprise the bulk of the diet of chicks. The diet of chicks less than 3 weeks of age consists of approximately 85% insects (by weight). The remainder of the diet consists of berries and seeds (Handley 1931). Most insects consumed by bobwhite chicks are less than 8 mm in length and weigh less than 0.005 g. (Hurst 1972). Juvenile bobwhites may consume only 25% insects with the remainder of their diet comprised of fruit and seeds (Handley 1931).

Stomach content studies by Judd (1905) and Handley (1931) indicated ingestion of about 85% vegetative matter and 15% animal matter by adult northern bobwhites. Judd found bobwhites eat vegetative matter from October - March, primarily insects from late spring to summer, and 44.1% insects in August. A food chain analysis and exposure pathway model for this species is provided in Section VII.

4.4 AMERICAN ROBINS

4.4.1 Status and Range

American robins (*Turdus migratorius*) occur throughout the United States. They winter in the southern half of the U.S., including the Middle Atlantic and Gulf States, but some flocks of considerable size remain in northern states. Wintering robins are most abundant between 30 and 35 degrees N latitude (Speirs 1953). The breeding range has recently expanded with

increasing open habitats and lawns (Howell 1942, Martin et al. 1951, James and Shugart 1974). Population densities for this species have been documented at approximately 8.6 adult birds per hectare in a conifer forest in New York (Howell 1942).

4.4.2 Physical Characteristics

The largest thrush in North America, adult American robins are identified by their orange breast and slate-colored back and tail feathers. The breast of juvenile birds is spotted. Sexes are similar in size and appearance. Size tends to vary slightly geographically; the smallest robins are found in the eastern United States and along the Pacific coast, and the largest ones occur in the Rocky Mountains, northern Great Plains, and northern deserts. Size tends to increase with latitude in eastern North America but not in western North America (Aldrich and James 1991). Additional physical characteristics are described in Table 4.

TABLE 4. Physical characteristics used to assess effects to American robins.

Factor	Mean
Body weight	70-90g*
Total body length	21.6 cm*
Surface area	198 cm ² **
Food ingestion rate	80 g/day**
Inhalation rate	0.041 m ³ /day*

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

4.4.3 Life History

Important habitat requirements for breeding robins include access to fresh water, protected nest sites, and productive foraging areas (Speirs 1953). Robins can be found foraging on the ground in open areas, along stream edges, and within shrubs and tree canopies (Paszkowski 1982, Malmberg and Willson 1988). Breeding habitats include moist forests, swamps, open woodlands, orchards, parks, and lawns.

Robins nesting in the northern United States and Canada migrate to the Gulf Coast states and the Carolinas for winter (Speirs 1953). Most northern robins leave their breeding

grounds from September to November and return between February and April (Howell 1942, Young 1951). Wintering robins are most abundant between 30 and 35 degrees N latitude (Speirs 1953). As robins move northward, they follow very closely the advance of the average daily temperature of 2.8°C (Bent 1964). Many of robins at Fort Leonard Wood are thought to be year-round residents, while others may migrate locally or farther. No specific data is available about robins migratory activities for Fort Leonard Wood.

The onset of breeding is later at northern latitudes and higher altitudes, but mating and egg laying generally occur in April or May (James and Shugart 1974, Knupp et al. 1977). Males arrive on breeding grounds before females to establish territories. Females pair with established males, usually for the entire breeding season (Young 1951).

Nests may be constructed in wooded areas, parks, and residential areas and are made of small twigs, grass, mud, and ribbon, twine, or string. Females generally are responsible for nest construction and egg incubation. Average nests measure an outside depth of 7.6 cm, inside depth of 6.4 cm, outside breadth of 16.5 cm, and inside breadth of 10.2 cm. First clutches usually contain 3 or 4 eggs; later clutches tend to contain fewer eggs (Young 1955). Egg incubation usually begins the evening following deposition of the second egg. The eggs are ovate (28.1 X 20.0 mm). The male watches for predators while the female incubates her clutch for 10-14 days. Both males and females feed the nestlings (Young 1955). Fledging generally occurs 14 days after the young are hatched. Following fledging, the brood often divides, with the male and female each feeding half of the fledglings for another 2 weeks (Weatherhead and McRae 1990). Females may start another brood before young are independent, leaving the male to feed the fledglings (Young 1955). When the young are able to forage for themselves (approximately 2 weeks after fledging), they join other robins in areas of high food availability (Hirth et al. 1969).

Robins participate in communal roosting. The number of individuals at roosts begins to increase during early/mid June and continue to rise through August. Males use these roosts throughout the breeding season, whereas females use the roosts until incubation begins (Howell 1940, Pitts 1984).

During the breeding season, male robins establish breeding territories, which the female helps to defend against other robins. Territories of different pairs often overlap where

neither pair can establish dominance (Young 1951). In some prime nesting areas (e.g. dense coniferous forest), where robin densities are high, breeding territories are small and birds often forage elsewhere (Howell 1942). Adult robins often return to the same territory every year (Young 1951). During the nonbreeding roosting period, robins return to the same foraging sites for many weeks and join roosts within 1-3 km of foraging sites (Morrison and Caccamise 1990).

Nesting population density varies with habitat quality. Densely forested areas with well-protected nest sites may support high densities of nesting robins; however, the relatively small territories found in these areas might not be used as much for foraging as those containing open areas (Howell 1942). In the nonbreeding season, robins often join single or mixed-species roosts that can include tens of thousands of birds (Morrison and Caccamise 1990). Wintering robins are most common in pine or oak/pine communities of the southeastern and south central United States (Speirs 1953).

Robins begin to breed the first year after hatching (Henny 1972) and raise multiple broods each season (Howell 1942). Predation often is a major source of mortality for both eggs and nestlings (Knupp et al. 1977, Klimstra and Stieglitz 1957). Approximately half of adult birds survive from year to year (Farmer 1949, Henny 1972). Average longevity of a robin that survives to its first January ranges from 1.3-1.4 years (Farmer 1949).

4.4.4 Foraging Behavior

Robins forage along the ground for ground-dwelling invertebrates and in shrubs and low tree branches for fruit and foliage-dwelling insects (Malmborg and Willson 1988, Paszkowski 1982). During seasons when fruits dominate the diet, robins consume quantities in excess of their body weight each day. Robins, like other fruit-eating birds, exhibit a low digestive efficiency for fruits. Karasov and Levey (1990) estimated the metabolic energy coefficient (i.e., the proportion of food energy assimilated) for robins eating a mixed fruit diet to be only 55%, perhaps because of the low retention time of digested matter in the gut (Levey and Karasov 1992). The short retention time might be an adaptation to eating fruit because large quantities of fruit must be processed to obtain adequate protein. In contrast, when eating insects, digestive efficiency of robins (and other bird species) is approximately 70% (Levey and Karasov 1989). Moreover, the energy content of insects tends to be higher than

that of most fruits. During spring when robins consume insects, they should consume smaller quantities relative to their body weight than when eating fruits.

A study of 4 robins' nests showed food given to nestlings during late May and early June consisted mainly of cutworms (Hamilton 1935). Adult birds brought the young approximately 2 g of food per visit, which equates to 200 g animal matter per day (Hamilton 1935). The amount of food adults bring young varies throughout the nestling period. Robins feed their young, regardless of the number of chicks, approximately 1.5 kg of food during the 2 weeks while in the nest.

4.4.5 Food/Prey Selection

In pre-breeding and breeding seasons, robins feed primarily on invertebrates (90% by volume) and on some fruits. During the remainder of the year, their diet consists (80-90% volume) of fruits (Martin et al. 1951, Gochfeld and Burger 1984, Wheelwright 1986). Robins eat a wide variety of plant and animal foods. In a compilation of diet records collected throughout the United States and southern Canada, Wheelwright (1986) found robins consume fruits from 51 genera and invertebrates from 107 families. Commonly eaten fruits include plums, dogwood, sumac, hackberries, blackberries, cherries, greenbriers, raspberries, and juniper (Martin et al. 1951, Wheelwright 1986). Common invertebrates include beetles, caterpillars, moths, grasshoppers, spiders, millipedes, and earthworms (Martin et al. 1951, Wheelwright 1986, Paszkowski 1982).

Wheelwright (1986) found no difference between the sexes in the proportion of types of invertebrates and fruits eaten. Nestlings feed almost entirely on insects and other invertebrates (Howell 1940). Older juveniles eat a high proportion of fruit and easy-to-capture prey (Gochfeld and Burger 1984, Wheelwright 1986). Robins often show food preferences. A population in central New York preferred northern arrowwood and spice bush fruits over most other plants (Wheelwright 1988). In Illinois a group predominantly ate frost grapes and Virginia creeper in late summer and fall (Malmborg and Willson 1988). A food chain analysis and exposure pathway model for this species is provided in Section VII.

Section V

Stressor Characterization

Section V:

Stressor Characterization

5.1 CHEMICAL STRUCTURE

Fog oil, SGF2, types D and E, are composed of alkanes, alkenes, and alkynes (hydrocarbons C_2 to C_{50}).

5.2 GENERAL DESCRIPTION

Fog oil is a middle distillate product of crude petroleum oil. Crude petroleum oil has different components depending on its source. There is no exact formulation or specific chemical composition for petroleum products like fog oil. The first distillation volatilizes gases, naptha, gasoline, and middle distillate fractions. The remaining material ranges in molecular size from C_2 to C_{50} . A further refining of the middle distillate transforms the pale oils to white oils. The petroleum distillate the military calls fog oil is also used as a diesel engine lubricating oil (Lushbaugh et al. 1950). Industrial uses include: metal working, cutting oils, newspaper ink, agricultural pesticides, livestock spray, and medicinal uses such as laxatives.

Fog oil can be described as a mineral oil, petroleum distillate, hydrotreated heavy naphthenic base oil. Chromatographic analysis of SGF 2 fog oil indicated aliphatic, alkane, and alkene hydrocarbons were present. No aromatic hydrocarbons were detected in a sample of liquid fog oil (type C or D) analyzed in August 1995 (3D/Environmental 1996a). Earlier

analysis of old fog oil samples indicated 50% aliphatic and 50% aromatic compounds (Ballou 1981). Bausum and Taylor (1986) reported the following for old fog oil:

- total paraffins and aromatics often are present in equal amounts
- thousands of chemical species are present
- aliphatic compounds include normal branched alkanes, cycloparaffins, and olefins
- aromatic hydrocarbons range from 1-ring compounds to those with 4 or more rings
- alkyl aromatic hydrocarbons may be present
- small amounts of polar organic substances (acids, esters, and alcohols) are in fog oil
- organic nitrogen and sulfur compounds and heavy metals may be present.

Fog oils and other petroleum products are used to produce white smokes. The military has used standard grade fuels (SGF 1 and SGF 2), diesel fuel, jet fuel JP4, and kerosene to produce smoke. SGF 1 has not been supplied to the military since the 1970s (Liss-Suter and Villaume 1978). SGF 2 fog oil has been used by the military since 1956, specification MIL-F-12070A or NATO Code No. F-62. A few years prior to the issue of MIL-F-12070C, fog oil was designated as "new" because the refining process was modified to reduce aromatic hydrocarbons which are potentially harmful (carcinogenic) (Driver et al. 1992). Fort McClellan uses fog oil Type D and Fort Leonard Wood will use fog oil type D or E depending on the military specifications provided to fog oil manufacturers at that time. Fog oil types C, D, and E contain no, or limited, aromatic hydrocarbons as required by military specifications and current research (see Section X). The physical and chemical properties of types C, D, and E fog oils are the same. They differ in manufacturer testing requirements. Fog oil type D must pass a mutagenicity test before it can be sold to the military. Fog oil type E will have an added carcinogenicity test requirement. Physical properties were reported in the Military Specification Number MIL-F-12070D, Amendment 1, April 29, 1993 as described in Table 5.

TABLE 5. Physical properties of fog oil.

Property	Value
Flash point, minimum	160 °C
Saybolt universal viscosity	37.78°C (min) to 43.3°C (max)
Pour point	- 40°C
Density	0.92 g/cm ³
Maximum carbon residue	0.1 %
Maximum neutralization number	0.1

5.3 FORMATION AND DISPERSION OF FOG OIL SMOKE

Fog oil was used by the military to conceal troops, beach landings, and supply lines during World War II and the Korean War. Oil burners were used to produce smoke initially, but the military now uses diesel or gasoline powered smoke generators. Smoke may be produced from mobile armored personnel carriers (mobile smoke) or from stationary locations (static smoke).

One of the first smoke generators used by the Army, and the generator used by Fort McClellan, was the M³A3, a gasoline-driven pulse jet generator. The M³A3 has been replaced by more efficient M³A4, M56, and M157A2 generators. The M³A4 generator uses gasoline (military mogas) as a fuel source and has a consumption rate of 3 gph (US Army Technical Manual, TM 3-10040-276-10). The maximum fog oil consumption rate as reported in the Technical Manual is 50 gph.

Mobile units proposed for use at Fort Leonard Wood (M56 and M157) that produce fog oil smoke burn up to 63 gph of diesel fuel. The M56 is a turbine based multispectral smoke generator. The M157A2 is mechanized pulse jet generator. Both the M56 and M157 have a fog oil consumption rate between 60 to 80 gph.

The M56 was developed for highly mobile, large-area obscuration capability. It allows large-area visual smoke obscuration. It is a turbine based smoke generator mounted on a M1097 High Mobility Multipurpose Wheeled Vehicle (HMMWV). The turbine engine produces exhaust gas for vaporizing fog oil to provide visual smoke. The M56 can make smoke for 90 minutes by pumping fog oil from two 45-gallon fog oil tanks to the turbine exhaust gas. This system entered production in 1995.

The M157 produces large-area visual smoke screens. The M157 smoke generator system is mounted on a HMMWV (motorized smoke) or track vehicle (mechanized smoke). It consists of 2 pulse jet engine smoke generators, a control panel, an air compressor and accumulator, an electric fog oil pump, and an external fuel supply. Each smoke generator uses jet engines to vaporize fog oil.

Fog oil is subjected to high temperatures during smoke generation: 540°C for the M³A4 generator. The fog oil is not ignited inside the generator but some thermal decomposition and chemical interaction with exhaust gases can occur. Industrial Oils Unlimited, a military fog oil manufacturer, reports on a 1989 fog oil Material Safety Data Sheet that thermal decomposition products of fog oil are CO, CO₂, and oxides of sulfur. Volatile compounds, primarily alkanes up to C₁₁, remain in the vapor state during the life of the fog. Bausum and Taylor (1986) report there may be an increase in the aromatic component of fog oil that occurs during smoke production. No aromatic hydrocarbons were detected (MDL Method Detection Limit = 5 mg/L) in post-generator fog oil samples generated by M157 and M56 generators (3D/Environmental 1996a).

The diameter of fog oil aerosol droplets ranges from 0.5 µm to 1.2 µm (Liss-Suter and Villaume 1978). Fog oil droplets tend to agglomerate, which increases the rate of settling or deposition. Liss-Suter and Villaume (1978) reported fog oil droplets remain in the air an average of 1 hour. Settling rate varies with meteorological conditions. Fog oil droplets may be called particulate matter, and are considered aerosols based on their size. Particle size distribution of fog oil droplets is dependent upon generation method and concentration. Higher concentrations of fog oil in the atmosphere cause faster agglomeration of droplets.

Dispersion of liquid, recondensed fog oil is dependent upon meteorological conditions, site geography, mode of generation, and land surface structure. Deposited fog oil tends to be adhesive and is unlikely to be resuspended.

5.4 FOG OIL DEPOSITION AND EVAPORATION

Fog oil aerosols are recondensed fog oil vapor. When fog oil is passed through a generator, it is atomized or aerosolized. Fog oil smoke is a result of the hot vaporized oil recondensing once it is released into the atmosphere. Air-borne fog oil aerosols deposit onto soil, water, vegetation, and other surfaces in the dispersion pathway. Fog oil deposits downwind and generally close to the source. Fog oil deposition rates range from 50 to 1,300 mg/m² at 1 km from the source (Driver et al. 1992). Worst-case estimates of fog oil deposition have been reported at <10 mg/m² at distances greater than 2 km (Driver et al. 1992). Fog oil may undergo weathering, evaporation, and emulsification, before and after deposition.

Chemical processes that may transform fog oil include photo-oxidation and polymerization. In addition to physical and chemical reactions, fog oil is biodegradable.

Some fog oil particles evaporate. The mass of fog oil decreases with time, and the rate of decrease is a function of temperature. Driver et al. (1992) estimated the rate of evaporation for 90% of the aerosol fog oil, ranges from 15 days to 150 days as temperature decreases from +40°C to -40°C. These times probably exceed actual residence time of fog oil in the environment because other physical and chemical processes (weathering, photo-oxidation, etc.) simultaneously degrade fog oil. If the evaporation rate of fog oil is not used to predict surface deposition, fog oil deposition may be overestimated by 50% to 70% (Driver et al. 1992).

5.5 PHYSICAL PROCESSES

Exposure to the environment causes weathering. The weathering process occurs more rapidly when a compound is in the vaporized state (Driver et al. 1992). Fog oil compounds do not remain in the atmosphere long enough to attribute mass loss to weathering processes.

Emulsification may occur when fog oil is deposited onto surface water. A fog oil film may form on the surface of the water and undergo emulsification, biotransformation, biodegradation, and evaporation.

5.6 PREDICTED FOG OIL USE

Fog oil use is proposed in 6 smoke training areas at Fort Leonard Wood: Musgrave Hollow, Ballard Hollow, Mush Paddle Hollow, Bailey/McCann Hollow, Wolf Hollow, and Babb Airfield (Figure 2). Burns and McDonnell (1993) modeled dispersion of fog oil under Pasquill categories A - F from 4 of these smoke training areas. The data was used by the Missouri Department of Natural Resources, Division of Environmental Quality, for the Air Permit Application for static and mobile fog oil training at Fort Leonard Wood. The permit specifies daily and yearly limitations of fog oil use. Since the issue of the permit, the proposed amount (both daily and yearly) of fog oil use has changed to reflect an increase in number of military personnel to be trained at Fort Leonard Wood.

We assessed risks to reptiles, amphibians, and birds from implementation of 4 training alternatives proposed in the preliminary draft Environmental Impact Statement (HBA 1996). The 3 action alternatives, Relocate Current Practice (RCP), Environmentally Preferred Training Method (EPTM), and Optimum Training Method or Army's Proposed Action (OPTM) differ in the amount of fog oil to be used in Training Activities 7.2 (static smoke), 7.3 (mobile smoke operations), and 7.4 (mobile field training). Fog oil use is not proposed in the No Action alternative (Table 6).

Our analysis assumes daily maximum use of 1200 gallons of fog oil in static and/or mobile training, with a source rate of 0.66 gallons per minute. The yearly maximum quantity varies for each static and mobile smoke training alternative. We used a maximum of 20 generators for static training and 12 generators for mobile training.

TABLE 6. Static and mobile fog oil training alternatives, associated quantities of fog oil, and proposed number of fog oil generators (Darrel Sisk, April 17, 1996 pers. comm.).

Alternative	Training Activities		
	7.2 Static Smoke	7.3 Mobile Operations	7.4 Mobile Field Training
No Action	0 generators 0 gal/yr	0 generators 0 gal/yr	0 generators 0 gal/yr
Relocate Current Practice	20 generators 20,000 gal/yr	12 generators 41,500 gal/yr	12 generators 64,000 gal/yr
Optimum Training Method	20 generators 8,500 gal/yr	12 generators 20,000 gal/yr	12 generators 56,000 gal/yr
Environmentally Preferred Training Method	20 generators 1100 gal/yr	12 generators 20,000 gal/yr	12 generators 28,400 gal/yr

Section VI
Toxicity Assessment

Section VI:

Toxicity Assessment

6.1 INTRODUCTION

This toxicity assessment identifies the toxicological effects to receptors that may result from exposure to fog oil. The objective of the toxicity assessment is to develop or establish concentrations or doses of stressors that may cause an adverse effect or toxic response in receptor species. We reviewed toxicological studies and toxicity values to establish a safe dose. Toxicity values are numerical expressions of dose-response curves. We identified concentrations that could cause an adverse effect to determine if species of concern will be exposed to "unsafe" or toxic concentrations of stressors.

Until recently, most toxicology research and risk assessments focused on humans. There is an established EPA hierarchy to collect human toxicity data for human health risk assessments. There also is an established protocol on how to apply toxicity information from non-human test organisms to human receptors. There is no established protocol for non-human species, communities, or ecosystems. Several guidance documents now available from EPA and DoD (e.g., Wentsel et al. 1994) provide assistance in developing approaches to estimating toxic effects to ecological receptors from environmental stressors. This assessment incorporates the most current methods for addressing ecological risks.

For some chemicals, the EPA has established a safe dose or "Reference Dose" (RfD). The RfD is used to assess noncarcinogenic effects resulting from exposures at Superfund sites (EPA 1989). RfDs for many chemicals have been established for humans. Many RfDs are developed from animal toxicological studies. The RfD is the highest dose administered that does not cause an adverse effect (NOAEL = No Observable Adverse Effect Level). The NOAEL is then adjusted for uncertainties in the study. By EPA guidelines, the NOAEL is divided by an uncertainty factor (UF) of 10 to account for physiologic, metabolic, anatomic, or taxonomic differences between test species and species of concern. If the RfD is based on a Lowest Observable Adverse Effect Level (LOAEL) instead of a NOAEL, another UF of 10 is applied. We use LOAEL estimates if the NOAEL is not available.

There are few established toxicity values for non-human organisms. Some risk assessors develop toxicity values similar to the human RfD, and then assess effects based on these values. The Department of Defense (DoD) Procedural Guidelines for Ecological Risk Assessments at US Army Sites (Wentsel et al. 1994) refers to the use of Toxicity Reference Values (TRVs) in place of RfDs. We developed a TRV for inhalation, ingestion, and dermal absorption from fog oil toxicological studies. Calabrese and Baldwin (1993) outlined procedures to develop TRVs. We used the decision tree with UF values presented in Wentsel et al. (1994) (Figure 8) to adjust toxicity values to develop TRVs. The UFs account for differences within species, between species, and between toxicological values. The application of UFs reduces the NOAEL or selected toxicity value to account for differences in the species of concern and the test species. This implies several assumptions about the test species and the species of concern:

- both species show similar toxic response to the stressor,
- both are sensitive to the stressor,
- the stressor behaves similarly in both species.

We evaluated acute and chronic toxicological effects of fog oil. Acute effects were assessed assuming a single exposure. Chronic effects were evaluated assuming exposure occurred over the life span of the receptor. Typically, acute effects are exhibited by organisms exposed to high concentrations over a short period of time. Acute toxicity tests are designed to assess short-term exposure. Acute exposure results from one exposure event. We did not consider short-term, simultaneous exposure to multiple stressors because there is no information available upon which to base this analysis (e.g., toxicological studies including all

stressors assessed). Also, we were unable to accurately predict the simultaneous timing, area of use, and other factors needed to evaluate the likelihood, magnitude, or frequency of exposure to multiple stressors. In addition, we were not able to evaluate the combination effects of chemical stressors and other biological/physiological stressors (e.g., predator avoidance or heat stress).

Chronic toxicity tests assess long-term toxicological effects. These tests are used to determine if there are expected effects to the receptor after multiple exposures to a stressor. The EPA (1989) describes chronic exposure for humans as anything occurring for 7 years or 10% of the average human lifespan. Chronic tests include doses that are representative of expected field exposures.

We evaluated 3 routes of exposure: oral ingestion, inhalation, and dermal absorption. Chemicals ingested enter the digestive system where they are metabolized or excreted. Effects from ingested stressor are typically short-term, and alleviated with removal of the stressor. Absorption efficiency was not evaluated.

Inhaled toxicants may damage the lungs and cause systemic effects. The lung membrane has a large surface area over which gas exchange occurs. Absorption efficiency was not evaluated. Receptors in this ERA, particularly eggs, tadpoles, and adult green frogs, may respire gases and aerosolized chemicals through their surface membrane or skin. We did not account for aerosolized fog oil that may be respired by receptors through their skin. Cutaneous respiration pathway intake rates are not developed for fog oil or the receptors. We assumed that the 100% absorption of fog oil used for the dermal absorption pathway analyses will account for small quantities of fog oil that may enter through the skin as a gas.

Many toxicants irritate dermal coverings. This pathway is of particular concern when evaluating effects to amphibians. Their moist integument enhances chemical exchange. Water soluble chemicals are taken rapidly into the tissue.

Because of the extensive hydrotreating new fog oil undergoes before it is purchased by the military, toxicological effects and toxicity values from new fog oil are not expected to be as severe as those from old fog oil. Hydrotreating of new fog oil removes carcinogenic compounds such as aromatic compounds and PAHs (polycyclic aromatic hydrocarbons) which

are considered more toxic than non-aromatic hydrocarbons. Most of the toxicological studies and values available to date examined old fog oil that has not been hydrotreated, and may contain aromatic compounds and PAHs.

6.2 ORAL INGESTION

Acute oral toxicity of fog oil is low in animals (Palmer 1990). A similar petroleum product, white mineral oil, is lethal to mice in doses of 5-20 mL/kg (Driver et al. 1992). In mice, daily ingestion of 5 or 20 mL/kg white mineral oil caused weight loss, degeneration of liver and kidney, restlessness, and epidermal damage; animals died within 7-10 days (Mulhy et al. 1983). In rats and rabbits, ingestion of fog oil is rarely acutely toxic (Palmer 1990).

Chronic ingestion of highly refined mineral oils is not known to cause cancer in animals. Tumors were not induced in rats given 2% liquid paraffin in a diet for 500 days. Liquid paraffin is comparable to mineral oil (Palmer 1990). Oser et al. (1965) found no oil-related tumors in rats fed 5% diets of 3 grades of petrolatum for 2 years. Petrolatum is comparable to mineral oil.

Aspiration (act of taking fluids into the lungs) of oil products during or following ingestion may be more harmful than ingestion itself. Mortality was caused by aspiration of fog oil at doses several times smaller than doses that were lethal by ingestion (Driver et al. 1992). Aspiration of oil products may cause edema, pulmonary lesions, pneumonia, visceral congestion, central nervous disorders, and anorexia (Driver et al. 1992).

6.3 DERMAL ABSORPTION

Fog oil used for obscuration is not considered a skin sensitizer or eye irritant. In humans, short-term dermal exposure to petroleum oils may cause redness (Palmer 1989). Dermal application of 0.6 mL yellow or white lubricating oil on guinea pigs for 2 days caused redness, hyperkeratosis, and desquamation (Mulhy et al. 1983).

Prolonged or repeated skin exposure to petroleum products can cause reversible inflammation, acanthosis, and eczema (Palmer 1989, Smith et al. 1987). Repeated dermal exposure to refined oils (similar to fog oil) changed epidermal morphology and caused hair loss (Palmer 1990). The refining process of "new" fog oil removes a significant proportion of

polyaromatic hydrocarbons (PAHs) and few chronic skin problems, including tumorigenesis, are expected (Palmer 1989).

6.4 INHALATION

The minute size of fog oil droplets ($0.5 - 1 \mu\text{m}$) facilitates respiratory exposure (Palmer 1990, Young et al. 1989). Viscosity of fog oil is low, and respiratory toxicity is lower than that of thicker oil mists (Driver et al. 1992). The LC_{50} for rats was calculated at 5.2 mg/L in a single 3.5 hour exposure (Grose et al. 1986, Selgrade et al. 1987). Exposure of male rats to 1.5 mg/L fog oil for 6 hours per day for 2 days caused 70% mortality due to pulmonary hemorrhage (Selgrade et al. 1987). After inhaling high doses ($4330 - 4500 \text{ mg/m}^3$) for 2 - 92 hours, mice retained significant amounts of oil in the bronchioles and alveoli and 14-33% of subjects died (Mulhy et al. 1983). For humans, the short-term exposure limit for mineral oil (chemically and toxicologically similar to fog oil) is 10 mg/m^3 for 15 minutes (Driver et al. 1992).

Adverse pulmonary and systemic effects may occur from prolonged or repeated exposure to fog oil. In humans, exposure to refined oils may cause respiratory granulomas and pneumonia (Palmer 1990). Rats exposed to 1.5 mg/L SGF-2 fog oil for 4 weeks exhibited multi-focal pneumonitis, edema, and inflammation (Grose et al. 1986, Selgrade et al. 1987). These symptoms were rarely observed in rats exposed to 0.5 mg/L SGF-2 for 4 weeks (Selgrade et al. 1987). However, rats exposed to similar doses for 13 weeks had more severe histopathological changes and pulmonary effects at lower doses (Selgrade et al. 1990). Exposure to fog oil for 4 - 13 weeks suppressed feeding and caused significant weight loss (Grose et al. 1985). None of these effects were life threatening and pulmonary functions such as total lung capacity, vital capacity, residual volume, diffusing capacity of CO_2 , and lung compliance were unaffected by fog oil exposure (Grose et al. 1985, Selgrade et al. 1987 and 1990).

Nearly all monkeys exposed to 63 mg/m^3 SGF-1 fog oil died within 1 year, suffering from pneumonitis, other pulmonary damage, and severe gastritis (Lushbaugh et al. 1950). Rats and dogs exposed to 100 mg/m^3 mineral oil for 1 year also contracted pulmonary damage (Wagner et al. 1964). No pulmonary damage was caused in rats exposed to 5 mg/m^3 mineral oil for 1 year (Wagner et al. 1964). An 8-hour time weighted average exposure limit of 5 mg/m^3 is advised for humans (Palmer 1990).

6.5 CARCINOGENICITY/TERATOGENICITY

The International Agency for Research of Cancer lists some naphthenic and paraffinic-based mineral oil as carcinogens or probable carcinogens. However, several studies found no association between inhalation of oil mist and lung cancer in humans (Shinn et al. 1987). Chronic ingestion of highly refined mineral oils is not known to cause cancer in animals (Palmer 1990, Oser et al. 1965). No carcinogenic effects were observed in rats fed 2% liquid paraffin for 500 days or rats fed 5% petrolatum for 2 years (Palmer 1990). Liquid paraffin and petrolatum are similar to mineral oil. Oser et al. (1965) found no oil-related tumors in rats fed 5% diets of 3 grades of petrolatum for 2 years. Inhalation of 5 and 100 mg/m³ of mineral oil for 13 months caused no difference in the incidence of tumors in mice (Palmer 1990). Studies of the carcinogenicity of "old" fog oil by dermal absorption are inconclusive (Palmer 1990).

Solvent refining processes remove many cancer-causing factors, including PAHs, from "new" fog oil (Gehart et al. 1988). However, Palmer (1990) found fog oil (type B) may be carcinogenic, especially if producers only use OSHA specifications as a guideline.

6.6 METABOLISM

We were unable to identify specific information on the metabolism, or metabolites of fog oil. Some information on metabolism is available on individual chemicals and hydrocarbons found in fog oil.

6.7 WILDLIFE EXPOSURE

Little data exist describing the toxicity of fog oil to wildlife. Small animals breathe a larger volume of air per unit body weight than humans; wildlife may be more susceptible to effects of inhalation of fog oil (Driver et al. 1992). Fog oil is weakly mutagenic to rodents exposed in the wild (Yanders et al. 1985). Herbivores may ingest oils from plants because petroleum oils penetrate leaves, fruit, and tubers of some species (Mulhy et al. 1983). We found no evidence of fog oil accumulating in the environment or biota (including vegetation) at Fort McClellan (see Section 10). Old fog oil can accumulate in food chains, especially in aquatic situations (Shinn et al. 1987). Oil coating water can deplete dissolved oxygen and asphyxiate aquatic organisms. However, tests indicate fog oil has limited potential to reduce dissolved oxygen (Driver et al. 1992).

Studies have shown effects of exposure to fog oil in waterfowl, aquatic organisms, and invertebrates. In ducks, ingestion of 20 mL/kg lubricating oil or 24 mL/kg diesel oil caused no mortality (Mulhy et al. 1983). Other studies revealed systemic damage from doses as low as 1 mL/kg lubricating oil or 3 mL/kg diesel oil (Mulhy et al. 1983). Coating of avian feathers with petroleum products may inhibit thermoregulation, buoyancy, and escape from predators (Driver et al. 1992). In quail, ingestion of 3.5 mL/kg of No. 2 fuel oil delayed egg production and caused abnormalities in egg formation (Mulhy et al. 1983). Painting shells of viable chicken eggs with 2-30 μ L crude oil caused edema in subcutaneous tissue, necrosis of liver, and dilation of heart and spleen of embryos (Couillard and Leighton 1990). Coating less than 2% of the surface area of eggs with 1 μ L of No. 2 fuel oil was lethal to embryos (Driver et al. 1992). Toxicity of petroleum products to eggs may be related to PAH content of the oil. New fog oil contains little if any PAH compounds; it is assumed to have reduced toxicity based on this information.

Most species of fish tolerate 24 hour exposure to 28 - 52.5 mg/L of No. 2 fuel oil added to water, although some minnows tolerate up to 260 mg/L (Mulhy et al. 1983). When No. 2 fuel oil was dissolved in water, tolerance to oil was much lower (3.9 - 6.9 mg/L). The fathead minnow (*Pimephales promelas*) was not adversely affected by 0.16 - 2.37 mg/L fog oil (Driver et al. 1992). Marine annelids tolerated 24 hour exposure to 8.7 mg/L No. 2 fuel oil dissolved in water (Mulhy et al. 1983). Fog oil residues of 285 μ g/g (3600 μ g/cm³) in soil had no apparent effect on survival of adult or larval earthworms (Driver et al. 1992). Exposure to 8.96 mg/l of fog oil was lethal to the freshwater invertebrate, *Daphnia magna* (Driver et al. 1992). Exposure to 12.5 mg/L No. 2 fuel oil in water was lethal to scallops within 24 hours (Mulhy et al. 1983). Exposure to 1000 mg/L No 2. fuel oil in water dispersion reduced development of oyster and mussel larvae (Mulhy et al. 1983). Larvae of marine shrimp tolerated 24 hour exposure to 2.6 - 5.0 mg/L No. 2 fuel oil dissolved in water (Mulhy et al. 1983). Larval shrimp tolerated smaller doses for longer exposures.

6.8 TOXICITY VALUES

We located several toxicity values for fog oil from IRIS (Integrated Risk Information System), HEAST (Health Effects Advisory Summary Tables), the DoD database of material safety data sheets, and scientific literature. Table 7 presents all values identified.

6.9 DEVELOPMENT OF TRVS

We developed TRVs following the decision tree presented in Wentsel et al. (1994) (Figure 8). We applied different UFs if the value was a NOAEL or a LOAEL. The TRVs we calculated can be found in Table 8. Acute and chronic toxicity values were selected from Table 7. Without a species specific toxicity value for individual stressors, a toxicity value must be derived.

Several methods exist to establish a toxicity value. Preferentially, a value for the species in the same taxonomic family is used to estimate a toxicity value for the species of concern. This approach is considered scientifically justified (California Dept. of Toxic Substances Control 1994). Species chosen from which to develop toxicity data are termed surrogate species. Selection of appropriate toxicity values, based on a balance of taxonomic and physiological similarity, quality of data, and expected mode of toxic action is recommended by the California Department of Toxic Substances Control (1994). Toxicity values of surrogate species can be used to estimate toxicity values for the representative species. The $NOAEL_{surrogate}$ may be adjusted by dividing by uncertainty factors (UF) to determine a relative value for the species of concern. UFs are commonly applied to animal toxicity data values to establish human toxicity values. RfDs, as described earlier, are established by this method. Fog oil RfDs are available only for humans.

We established an acute and chronic Toxicity Reference Value (TRV) for fog oil for each receptor and exposure route. We used the same decision process to develop TRVs for adults and nonadult life cycle stages. TRVs were developed by selecting toxicity values from Table 10 for the chemical stressors. Next, we applied uncertainty factors presented in Wentsel et al. (1994) (Table 8). Table 7 provides the "critical study" for each toxicity value. Figure 8 is the decision tree we used with UFs indicated. UFs are multiplicative and are used to express degrees of uncertainty. The toxicity value (i.e. NOAEL or LD_{50}) is divided by the appropriate UFs (Table 8).

Inadequate information exists to determine if UFs applied (as presented by Wentsel et al. 1994) fully account for differences in toxicity between surrogate species and receptors in this study. We used a hierarchy for selection of toxicity values. Toxicity values were selected in the following order:

1. chronic NOAEL
2. chronic LOAEL
3. acute NOAEL
4. acute LOAEL
5. LD50 or LC50
6. PEL
7. TLV

Table 8 presents the toxicity values selected with appropriate UFs (Figure 8) for the TRV. We used the same UFs for ingestion, dermal absorption, and inhalation. This assumes the toxic responses expressed by the test species (e.g., laboratory rat) would be similar to those manifested by receptors. UFs applied should account for differences in sensitivity between test species and receptors of concern, as well as being protective for sensitive life stages.

TABLE 7. Various oil toxicity values. Shaded values were selected as acute or chronic toxicity values for this study

Chemical	Toxicity Value and Source
Fog Oil LC ₅₀ rat ihl (acute)	(Shinn et al. 1987) 60,000 mg/m ³
Diesel Fuel LC ₅₀ rat ihl	(Shinn et al. 1987) 26,000 mg/m ³
Fog Oil LC ₅₀ rat ihl	(Selgrade et al. 1990) 2.0 mg/l
SGF-2 aerosols LC ₅₀ acute ihl rats	(Driver et al. 1992) 5200 mg/m ³
Old Fog Oil (acute) Dermal LD ₅₀ rat Oral LD ₅₀ rat	(Driver et al. 1992) >2g/kg >5g/kg
Paraffinic lube oil (acute) Dermal LD ₅₀ rat (acute) Oral LD ₅₀ rat	(Driver et al. 1992) >2g/kg (effect at dose was slight skin irritation = LOAEL) >5g/kg
Napthenic Fog Oil (acute) Dermal LD ₅₀ rat Oral LD ₅₀ rat	(Driver et al. 1992) >2g/kg (effect at dose was slight skin irritation) >5g/kg
Fog Oil (based on mineral oil) ACGIH TWA ACGIH STEL	(Driver et al. 1992) 5 mg/m ³ 10 mg/m ³
Fog Oil NOAEL inhale	(Palmer et al. 1986) 100 mg/m ³
Fog Oil NOAEL	(Driver et al. 1992) 5 mg/m ³
Light Mineral Oil LOAEL dog, rat, mus, rbt, ham (chronic) NOAEL dog, rat, mus, rbt, ham	(Driver et al. 1992) 100 mg/m ³ 5 mg/m ³
Light Mineral Oil LD ₅₀ mus (oral) (chronic) TDLo rat (dermal) (acute)	(Lewis 1989) 22 g/kg 216 g/kg
Mineral Oil LOAEL rat (oral) (acute)	(Bramachari 1958) 17.6 g/kg
Diesel Fuel LD ₅₀ rat	(Driver et al. 1992) 16.0 ml/kg

Acronyms and Definitions:

LC₅₀ = Lethal concentration to 50% of test population

LD₅₀ = Lethal dose to 50% of the test population

TWA = Time weighted average for 8 hours

STEL = Short term exposure limit based on 15 minutes in an 8 hour work day

NOAEL = No Observable Adverse Effect Level; highest dose administered in study that did not cause an adverse toxicological effect.

LOAEL = Lowest Observable Adverse Effect Level; lowest dose administered in study that caused an adverse toxicological effect

TDLo = Toxic dose low; lowest dose in study that caused an effect.

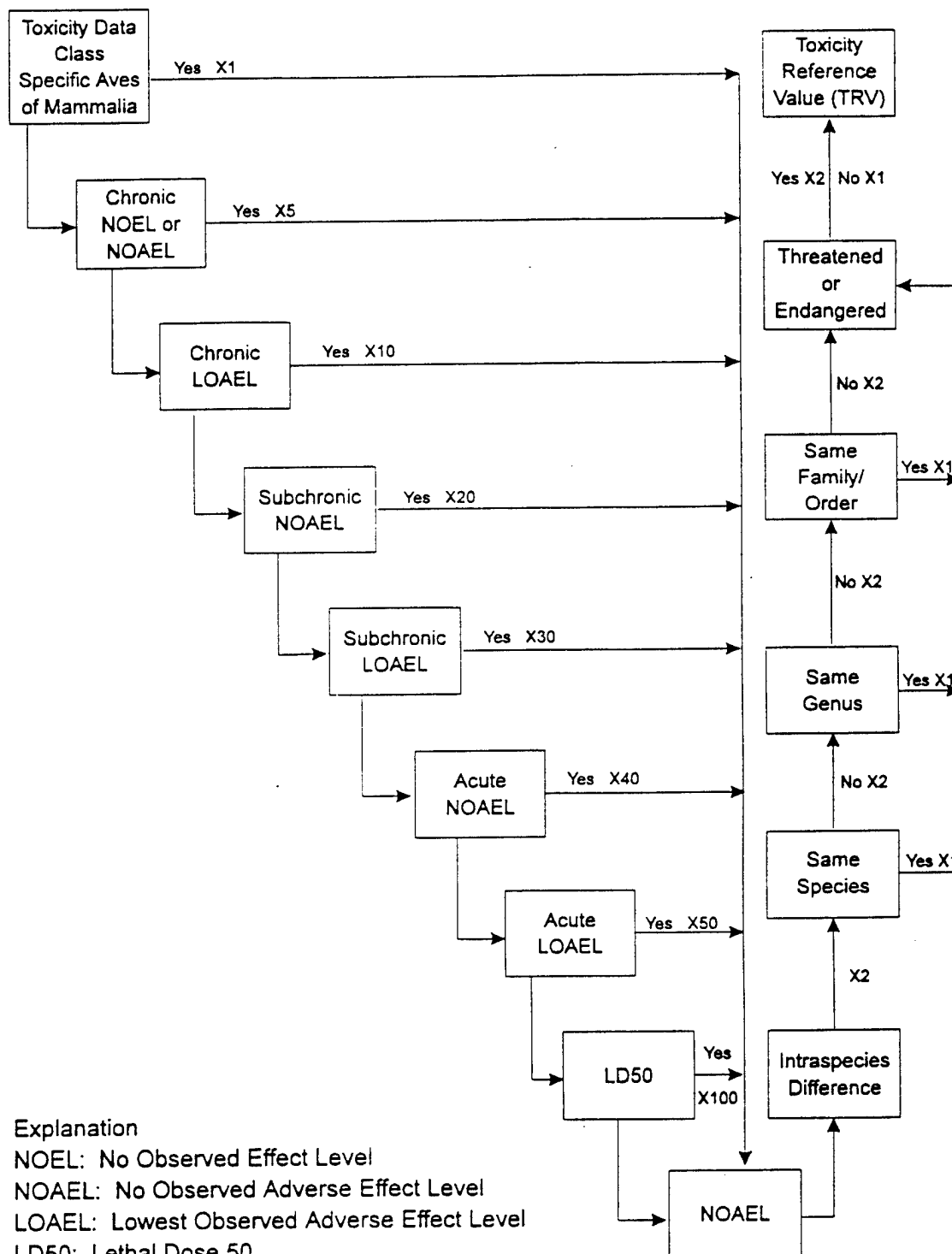


FIGURE 8. Decision tree for calculating TRV derivation (Wentsel et al. 1994).

TABLE 8. Toxicity Reference Values (TRV) for green frogs, eastern yellowbelly racers, American robins, and northern bobwhites.

Biological Target	Toxicity Value	Uncertainty Factor for TRV	TRV
Inhalation Acute			
green frog	60 g/m ³ LC ₅₀ mammal	16	3.75 g/m ³
eastern yellowbelly racer	60 g/m ³ LC ₅₀ mammal	16	3.75 g/m ³
northern bobwhite	60 g/m ³ LC ₅₀ mammal	16	3.75 g/m ³
American robin	60 g/m ³ LC ₅₀ mammal	16	3.75 g/m ³
Inhalation Chronic			
green frog	0.1 g/m ³ LOAEL _{mammal}	160	0.000625 g/m ³
eastern yellowbelly racer	0.1 g/m ³ LOAEL _{mammal}	160	0.000625 g/m ³
northern bobwhite	0.1 g/m ³ LOAEL _{mammal}	160	0.000625 g/m ³
American robin	0.1 g/m ³ LOAEL _{mammal}	160	0.000625 g/m ³
Ingestion Acute			
green frog	17.6 g/kg LOAEL _{rat}	16	1.10 g/kg
eastern yellowbelly racer	17.6 g/kg LOAEL _{rat}	16	1.10 g/kg
northern bobwhite	17.6 g/kg LOAEL _{rat}	16	1.10 g/kg
American robin	17.6 g/kg LOAEL _{rat}	16	1.10 g/kg
Ingestion Chronic			
green frog	22 g/kg LD ₅₀ mouse	1600	0.014 g/kg
eastern yellowbelly racer	22 g/kg LD ₅₀ mouse	1600	0.014 g/kg
northern bobwhite	22 g/kg LD ₅₀ mouse	1600	0.014 g/kg
American robin	22 g/kg LD ₅₀ mouse	1600	0.014 g/kg
Dermal Absorption Acute			
green frog	2 g/kg LOAEL _{rat}	16	0.130 g/kg
eastern yellowbelly racer	2 g/kg LOAEL _{rat}	16	0.130 g/kg
northern bobwhite	2 g/kg LOAEL _{rat}	16	0.130 g/kg
American robin	2 g/kg LOAEL _{rat}	16	0.130 g/kg
Dermal Absorption Chronic			
green frog	216 g/kg LOAEL _{rat}	160	1.40 g/kg
eastern yellowbelly racer	216 g/kg LOAEL _{rat}	160	1.40 g/kg
northern bobwhite	216 g/kg LOAEL _{rat}	160	1.40 g/kg
American robin	216 g/kg LOAEL _{rat}	160	1.40 g/kg

Section VII
Exposure Assessment

Section VII:

Exposure Assessment

7.1 INTRODUCTION

An exposure assessment was performed to quantify fog oil exposure to adult and nonadult life cycle stages of green frogs, yellowbelly racer snakes, bobwhite quails, and American robins on Fort Leonard Wood. The exposure assessment estimates the contaminant concentration at the point of contact with each receptor. In Section IV, we describe life history, range, and foraging behavior of each receptor. This information is incorporated into dose and intake determinations for each receptor.

We evaluated characteristics of fog oil and its proposed use on Fort Leonard Wood to estimate the contaminant dose receptors will receive. Frequency of fog oil use, expected quantity to be deployed, and duration of release of fog oil were used to determine possible contact points with receptors and concentrations at exposure points.

We examined 3 routes of exposure: inhalation, ingestion, and dermal absorption. Only complete exposure pathways were analyzed in detail. A complete exposure pathway consists of:

- contaminant release or stressor source
- exposure point (where the receptor and stressor meet)
- exposure path between stressor and receptor

We evaluated effects of fog oil use as proposed for Relocate Current Practice (RCP), Optimum Training Method (OPTM), and Environmentally Preferred Training Method (EPTM) Alternatives presented in the Preliminary Draft Environmental Impact Statement (PDEIS) (HBA 1996). Proposed quantities of fog oil use differ between alternatives (Table 9) and mobile smoke training locations (Table 10). For static training (Training Activity 7.2 of the PDEIS, we evaluated effects of 20 generators operating simultaneously as the worst case. For alternatives associated with Training Activities 7.3 and 7.4 (PDEIS) mobile fog oil training exercises, we evaluated effects of 12 generators operating simultaneously utilizing the projected quantity of fog oil per location (Table 10).

Locations of proposed mobile and static smoke training vary by Land Use Plan. Each of 3 land use plans utilizes 4 of 6 proposed mobile smoke ranges, and 1 of 3 proposed static smoke ranges (Table 11). Because we assumed receptors were evenly distributed across the landscape at Fort Leonard Wood and the quantity of fog oil to be used at each static training area did not vary by Land Use Plan Alternative, impacts we identify do not vary with static training locations. Impacts from mobile smoke training were identified for each of the 6 mobile smoke training areas and described for each Land Use Plan Alternative based on locations (Table 11).

For all alternatives and analyses, we assumed a fog oil source rate of 0.66 gallons per minute for each fog oil generator. We assumed only 1 training event would occur at a time, and that each event would use no more than 1200 gallons of fog oil per day. We assumed all static training would occur in Ballard Hollow, and all mobile fog oil training would occur from 1 location.

We calculated the dispersion of fog oil using the TREMS 1 air dispersion model to estimate contaminant concentrations to which receptors would be exposed. The TREMS 1 model generated concentration and deposition isopleths for concentrations of fog oil. We assessed the risk corresponding to exposure to fog oil at concentrations represented by each isopleth.

TABLE 9. Number of generators and quantities of fog oil used in 3 training events for RCP, OPTM, and EPTM alternatives.

Alternative	Training Event		
	7.2 Static Smoke	7.3 Mobile Operations	7.4 Mobile Field Training
Relocate Current Practice	20 generators 20,000 gal/yr	12 generators 41,500 gal/yr	12 generators 64,000 gal/yr
Optimum Training Method	20 generators 8500 gal/yr	12 generators 20,000 gal/yr	12 generators 56,000 gal/yr
Environmentally Preferred Training Method	20 generators 1100 gal/yr	12 generators 20,000 gal/yr	12 generators 28,400 gal/yr

TABLE 10. Quantity of fog oil used in determination of effects to green frogs, yellowbelly racers, northern bobwhite, and American robin. Quantities are provided for static and mobile smoke training areas for RCP, OPTM, and EPTM Alternatives. Annual consumption of fog oil for each training alternative is provided. Percents given for each mobile training area are equivalent to percent of time in a year (and percent of yearly quantity of fog oil) that the area can be used.

Training Alternative	Gallons of Fog Oil				
	Static Training Area	Mobile Fog Oil Training Areas			
	Range 30	Ballard Hollow (20%)	Mush Paddle Hollow (25%)	Musgrave Hollow (40%)	Bailey/McCann Hollow (30%)
Relocate Current Practice	20,000	21,100	26,375	42,200	31,650
Optimum Training Method	8500	30,400	30,400	30,400	30,400
Environmentally Preferred Training Method	1000	9800	12,250	19,600	14,700

TABLE 11. Locations of fog oil training for RCP, OPTM, and EPTM Training Alternatives for 3 Land Use Plans.

Training Activity	Land Use Plans Fog Oil Training Locations		
	Combined Headquarters	Separate Headquarters	Combined Headquarters and Instruction
Static Training Activity 7.2	Range 29	Range 30	Range 30F
Mobile Training Activities 7.3 and 7.4	Ballard Hollow Musgrave Hollow Wolf Hollow Babb Airfield	Bailey/McCann Hollow Musgrave Hollow Babb Airfield Wolf Hollow	Ballard Hollow Bailey/McCann Hollow Musgrave Hollow Cannon Range (Mush Paddle Hollow)

We used TREMS 1 to map dispersion of fog oil from very concentrated (0.01g/m^3) to very dilute (0.0001 g/m^3). TREMS 1, like other air dispersion models, can not accurately discriminate fog oil concentrations very near (300 m to 500 m) the source. Distances where the peak concentrations occur are dependent upon several factors such as Pasquill category, plume height, generator release rate, and other meteorological conditions. Detailed descriptions of TREMS1 and Pasquill stability categories can be found in the Biological Assessment of the Master Plan and Ongoing Mission (3D/Environmental 1996b).

We assumed receptors and food sources consistently received the concentration of fog oil as predicted by dispersion isopleths. Dose concentrations from deposition isopleths (Appendix I) were applied to food sources for ingestion pathways and to receptors for dermal absorption pathways.

We calculated a dose or intake value for inhalation, ingestion, and dermal absorption based on exposure to modeled concentrations of fog oil. We assessed effects of inhalation by receptors at each concentration isopleth. Fog oil dispersion concentrations in air under Pasquill categories B, C, D, and E were used to calculate doses for inhalation (3D/Environmental 1996b). We assumed receptors would remain within the area delineated by concentration and deposition isopleths.

Deposition isopleths (Appendix I) were used to predict dermal exposure concentrations. We estimated the amount of fog oil receptors would consume from ingesting contaminated food sources. We assumed food sources received contaminant doses as predicted by deposition isopleths. We assumed the entire surface of prey was coated with fog oil. Ingestion of contaminated prey or food could occur anywhere on the Installation.

Intakes were determined for acute and chronic exposures for 3 exposure pathways. We determined exposure concentrations and used decreasing concentrations graphed in isopleths to determine the maximum distance at which toxic effects would occur. For acute inhalation exposure, we exposed organisms to concentrations determined from isopleths. We exposed prey and receptors to concentrations of the deposition isopleths for ingestion and dermal exposures. We used the most concentrated isopleth for a single event as the acute exposure concentration. For chronic exposure, we estimated the number of exposures the receptor would receive over its lifetime. This was dependent upon type (static or mobile), frequency of fog oil training, and the amount of training that occurred when the receptor was at Fort Leonard Wood.

7.2 RECEPTORS

Receptors evaluated for this exposure assessment were the green frogs, yellowbelly racer snakes, Northern bobwhites, and American robins. Intake values for fog oil were determined by examining potential exposure concentrations and incorporating life history, behavior, and habitat use information for each receptor.

We addressed certain stages of each receptor's life cycle that may be more sensitive than the adult stage. Specific values used in intake and risk calculations for nonadult life cycle stages are presented in the following sections.

Population density and habitat information for each receptor species is included to provide decision-makers with approximate numbers of organisms that may be affected in areas we describe (Table 12). Population densities in Table 12 should be applied to Fort Leonard Wood with caution. Densities vary with locale, season, and habitat suitability.

TABLE 12. Population densities by species, state, and habitat.

Species	Population Density	Habitat	State
green frog	476 adult males/ha 567 adult females/ha	pond	New York (Wells 1978)
eastern yellowbelly racer	7 adults/ha	upland prairie	Kansas (Fitch 1963)
northern bobwhite	2 adult bird/ha	grassy fields	Mississippi (Brennan 1993)
American robin	8.6 adult birds/ha	conifer forest	New York (Howell 1942)

7.2.1 Green Frogs

Green frogs are active from April to mid-October. During this time of year, they can be found anywhere on Fort Leonard Wood where there is shallow fresh water (e.g. springs, creeks, and ditches, and along edges of lakes and ponds). Green frogs have also been observed using cave habitats in Missouri (Johnson 1987). For the remainder of the year (mid-October - April) green frogs overwinter by hibernating in mud and debris at the bottom of streams approximately 1 m deep. In spring, green frogs emerge and congregate at breeding areas. Green frogs deposit their eggs in emergent, floating, or submerged vegetation. Eggs usually hatch in 3 days. Tadpoles that hatch in spring usually metamorphose that fall, and spend time both on land and in water. Tadpoles hatched from summer-laid eggs usually overwinter as larvae and remain in water until the following spring. Average lifespan for green frogs is estimated at 5 years.

From widely available descriptions of life history and behavior, we performed an exposure pathway analysis for green frogs (Figure 9). After determining how green frogs could be exposed to fog oil, we calculated an intake (acute and chronic daily dose) of fog oil for 3 exposure pathways: inhalation, ingestion, and dermal absorption. These 3 pathways were evaluated for adult green frogs and intake tables are presented in Appendix II. We also calculated an intake for certain nonadult life cycle stages of the green frog (Appendix XI). We determined an intake for green frog eggs based on dermal absorption. Green frog eggs are short-lived and do not ingest food or inhale air from the external (outside the egg) environment.

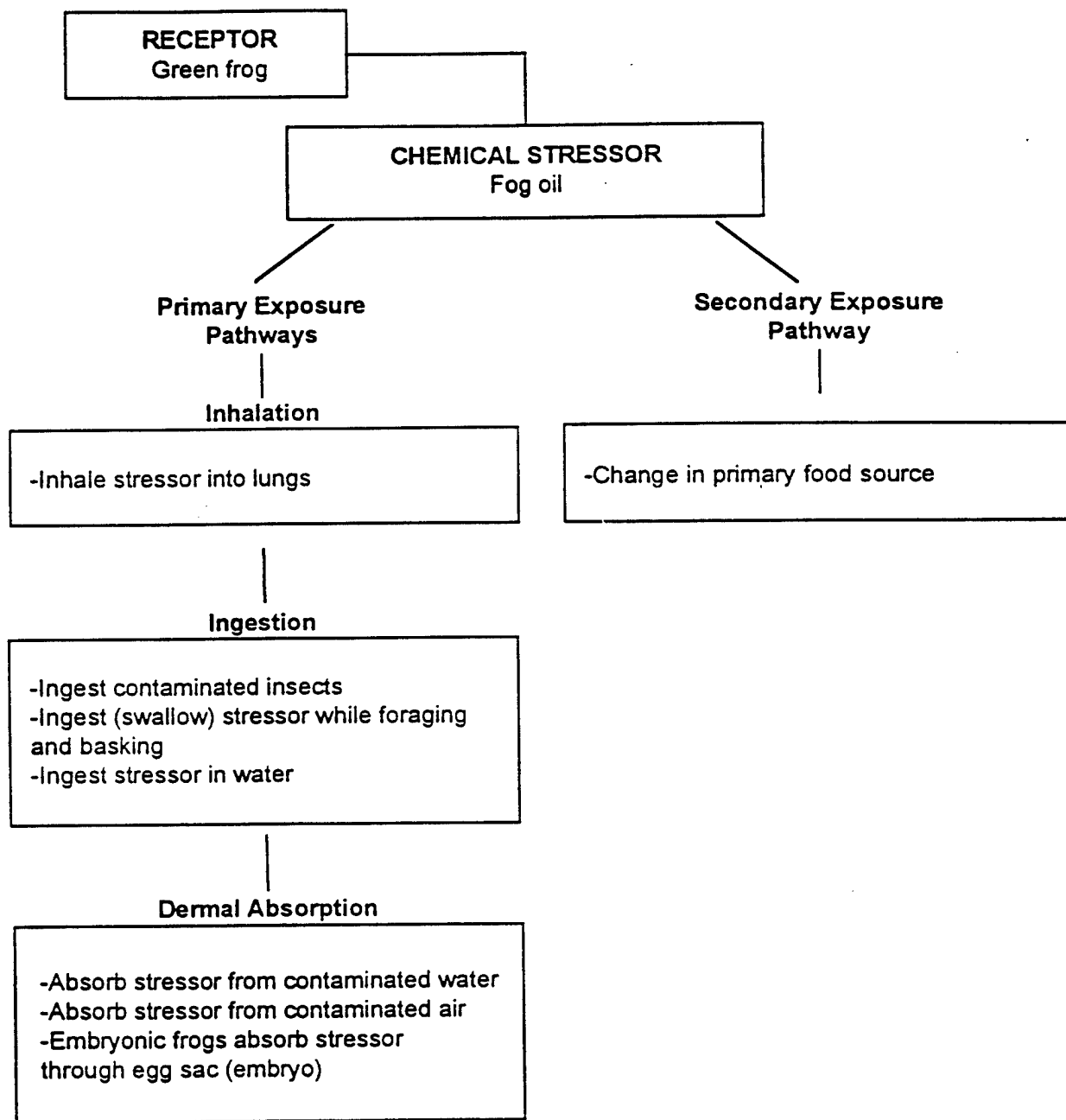


FIGURE 9. Exposure pathway for the green frog.

Tadpoles were evaluated for the ingestion exposure pathway only. Because tadpoles of the green frog are active below the water surface, there is an incomplete exposure route for dermal absorption and inhalation. Tadpoles are active in the aquatic environment only during the spring, summer, and fall until they mature. Current studies on new fog oil (see Section X) indicate little if any fog oil will remain in the aquatic environment for extended periods of time. The fog oil spreads over surface water, with a small amount actually deposited. Deposited fog oil that could affect tadpoles is readily biodegraded and attenuated. Green frog tadpoles are herbivorous. We considered green frog tadpole exposure duration for 9 months, rather than their 13 month existence, because they spend winter months burrowed in the mud of the pond or stream. Green frog life history information and characteristics used in intake calculations are presented in Table 13.

TABLE 13. Characteristics of green frogs used in intake equations.

Factor	Mean
Lifespan of adult	5 years*
Length of time as tadpole	13 months*
Length of time as an egg	3 days*
Body weight of adult	49 grams*
Surface area of adult	17 cm ² *
Ingestion rate of adult	0.83 g/day**
Inhalation rate of adult	2.5 X 10 ⁻⁴ m ³ /day**
Ingestion rate of tadpole	0.34 m ³ /day**
Surface area of egg	0.07 cm ² ***

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

*** calculated using equation for area of a sphere

7.2.2 Eastern Yellowbelly Racers

Eastern yellowbelly racers are active from March to November (Johnson 1987). During this time, they can be found in grassy fields, brushy areas, open woods, rocky wooded hillsides, grassy-bordered streams, roadsides, and marshes on Fort Leonard Wood. Racers overwinter (December to February) in deep rock crevices or mammal burrows. They hibernate in groups of tens to hundreds of individuals, sometimes with other snake species. Eggs may

be laid under logs, in rotten stumps, or in abandoned mammal burrows, and hatch within 2-3 months. Racers can live up to 20 years.

From life history and behavior information, we performed an exposure pathway analysis for racers (Figure 10). After determining fog oil exposure pathways for yellowbelly racers, we calculated an intake (acute and chronic daily dose) of fog oil for 3 exposure pathways: inhalation, ingestion, and dermal absorption. These 3 pathways were evaluated for adult racers (Appendix IV). We also calculated an intake for certain nonadult life cycle stages of the yellowbelly racer (Appendix XI). We determined intake for yellowbelly racer eggs for the dermal absorption pathway only. An incomplete exposure route exists for ingestion because yellowbelly racers in eggs do not ingest food. While oxygen exchange occurs, yellowbelly racers in eggs do not inhale air. Therefore, an incomplete exposure route exists for the inhalation pathway. Juvenile racers (< 1 year old) were evaluated for the inhalation, ingestion, and dermal absorption exposure pathways. Yellowbelly racer life history information and characteristics used in intake calculations are presented in Table 14.

TABLE 14. Characteristics of yellowbelly racers used in intake equations.

Factor	Mean
Lifespan of adult	8 years*
Length of time as juvenile	1 year*
Length of time as an egg	3 months*
Body weight of adult	250 grams*
Surface area of adult	131 cm ² **
Ingestion rate of adult	22 g/day**
Inhalation rate of adult	4.1 x 10 ⁻³ m ³ /day****
Body weight of juvenile	28 grams
Surface area of juvenile	65.5 cm ² **
Ingestion rate of juvenile	22 g/day**
Surface area of egg	22 cm ² ***

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

*** calculated using equation for area of cylinder (hemispherical endcaps)

****inhalation rate for a water snake (*Nerodia sipedon*) substituted (EPA 1993)

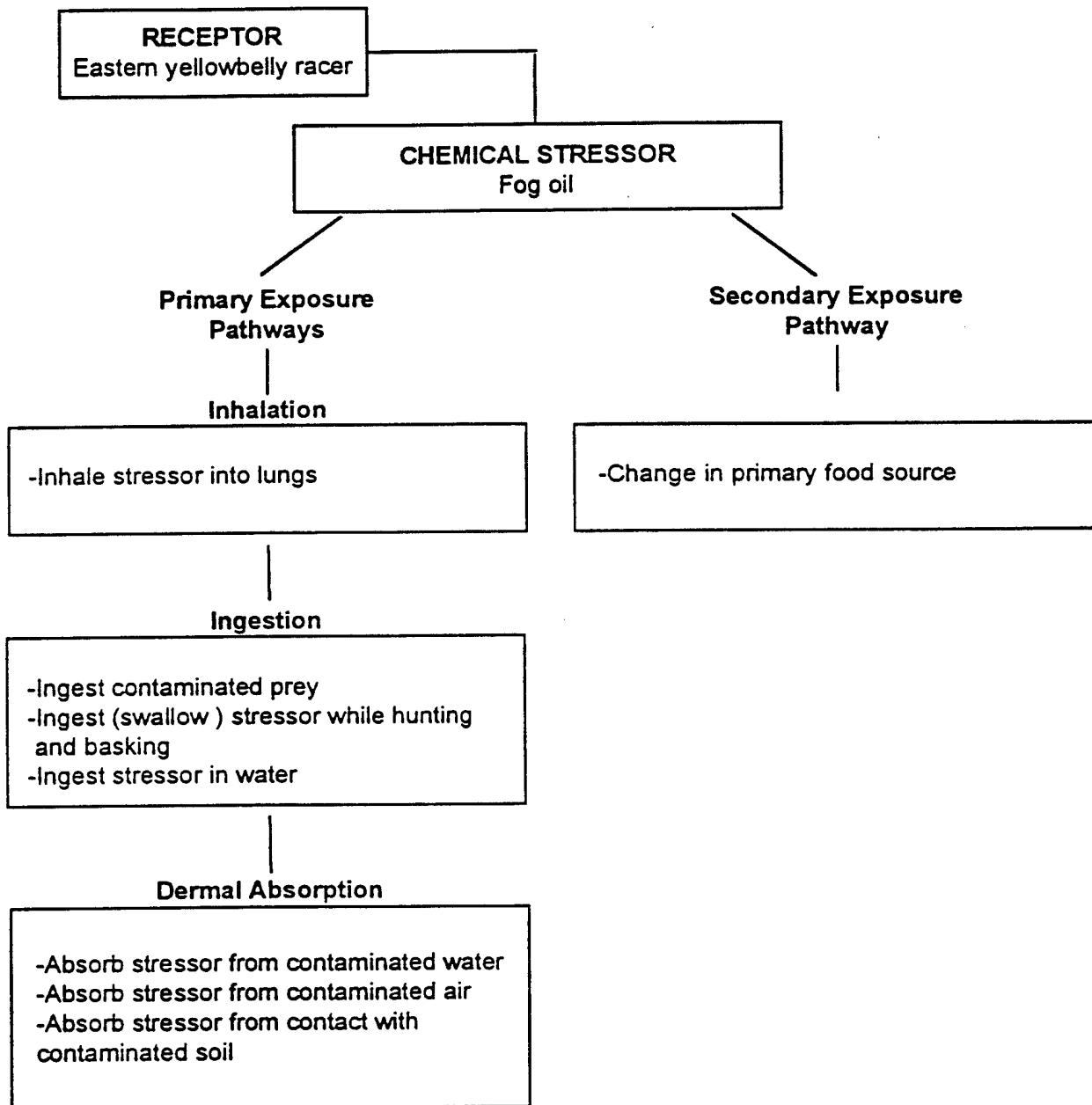


FIGURE 10. Exposure pathway for the eastern yellowbelly racer.

7.2.3 Northern Bobwhites

Northern bobwhites are year-round residents of Fort Leonard Wood. Bobwhites are ground dwelling, gallinaceous birds with short, heavy bills, adapted for foraging for seeds and insects on the ground. Bobwhites can be found in old weed patches, stubble fields, briar patches, thickets, and woodlots. Groups, called coveys, are formed in winter for warmth and protection, but individuals disperse in spring prior to mating. During breeding season, grasslands, idle fields, and pastures are preferred habitat. Bobwhites nest on the ground along fence rows with long thick grass and briars, or in brushy corners of fields and brush piles. A hollow is created in dense vegetation, and dead grass is woven into an arch over the nest to concealing it. Eggs are laid between mid-March and early-May. Young are precocial. Average lifespan for northern bobwhites is estimated at 9 years.

From readily available descriptions of life history and behavior, we performed an exposure pathway analysis for northern bobwhites (Figure 11). After determining fog oil exposure pathways for northern bobwhites, we calculated an intake (acute and chronic daily dose) of fog oil for 3 exposure pathways: inhalation, ingestion, and dermal absorption. These 3 pathways were evaluated for adult bobwhites (Appendix VI).

We also calculated intakes for certain nonadult life cycle stages of the northern bobwhite (Appendix XI). We determined an intake for bobwhite eggs for the dermal absorption pathway only. An incomplete exposure route exists for ingestion because bobwhite quail eggs do not ingest food. While oxygen exchange occurs, bobwhite quail eggs do not inhale air. Therefore, an incomplete exposure route exists for the inhalation pathway. Exposure of bobwhite chicks (approximately 6 weeks old) and juveniles (approximately 150 days old or less) were evaluated for the inhalation, ingestion, and dermal absorption exposure pathways. Northern bobwhite life history information and characteristics used in intake calculations are presented in Table 15.

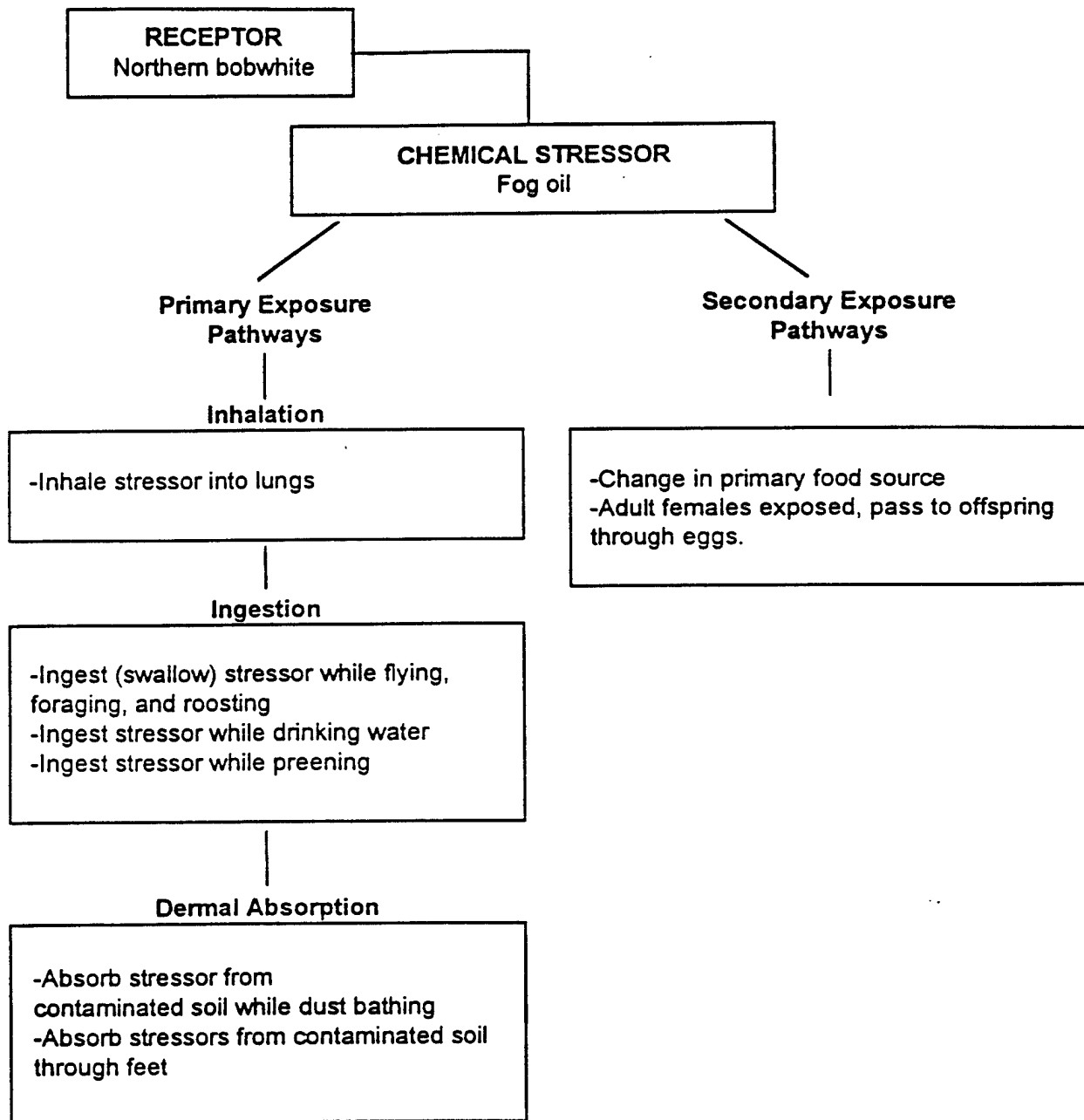


FIGURE 11. Exposure pathway for the northern bobwhite.

TABLE 15. Characteristics of northern bobwhites used in intake equations.

Factor	Mean
Lifespan of adult	9 years*
Length of time as juvenile	108 days*
Length of time as chick	42 days old*
Length of time as an egg	23 days*
Body weight of adult	200 grams*
Surface area of adult	320 cm ² **
Ingestion rate of adult	16 g/day**
Inhalation rate of adult	1.1 x 10 ⁻¹ m ³ /day*
Body weight of juvenile	150 grams
Surface area of juvenile	280 cm ² **
Ingestion rate of juvenile	12.9 g/day**
Body weight of chick	60 grams
Surface area of chick	153 cm ² **
Ingestion rate of chick	12.9 g/day**
Surface area of egg	24.6 cm ² ***

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

*** calculated using equation for area of an oblate spheroid

7.2.4 American Robins

American robins are year-round residents of Fort Leonard Wood. Robins can be found on the ground in open areas, along stream edges, open woodlands, orchards, parks, and lawns, and within shrubs and tree canopies. Nests may be constructed in wooded areas, parks, or neighborhoods in trees, bushes, or buildings. Mating and egg-laying generally occur in April or May. Eggs hatch within 10-14 days and young fledge at 14 days. Average lifespan for robins is estimated at 1.5 years, but they have been known to live up to 9 years.

From readily available descriptions of life history and behavior, we performed an exposure pathway analysis for American robins (Figure 12). After determining fog oil exposure pathways for American robins, we calculated an intake (acute and chronic daily dose) of fog oil for 3 exposure pathways: inhalation, ingestion, and dermal absorption. These 3 pathways were evaluated for adult robins (Appendix VIII). We also calculated intakes for certain nonadult life cycle stages of the American robin (Appendix XI). We determined an intake for robin eggs for the dermal absorption pathway only. An incomplete exposure route exists for ingestion because robins in eggs do not ingest food from an external source. While oxygen

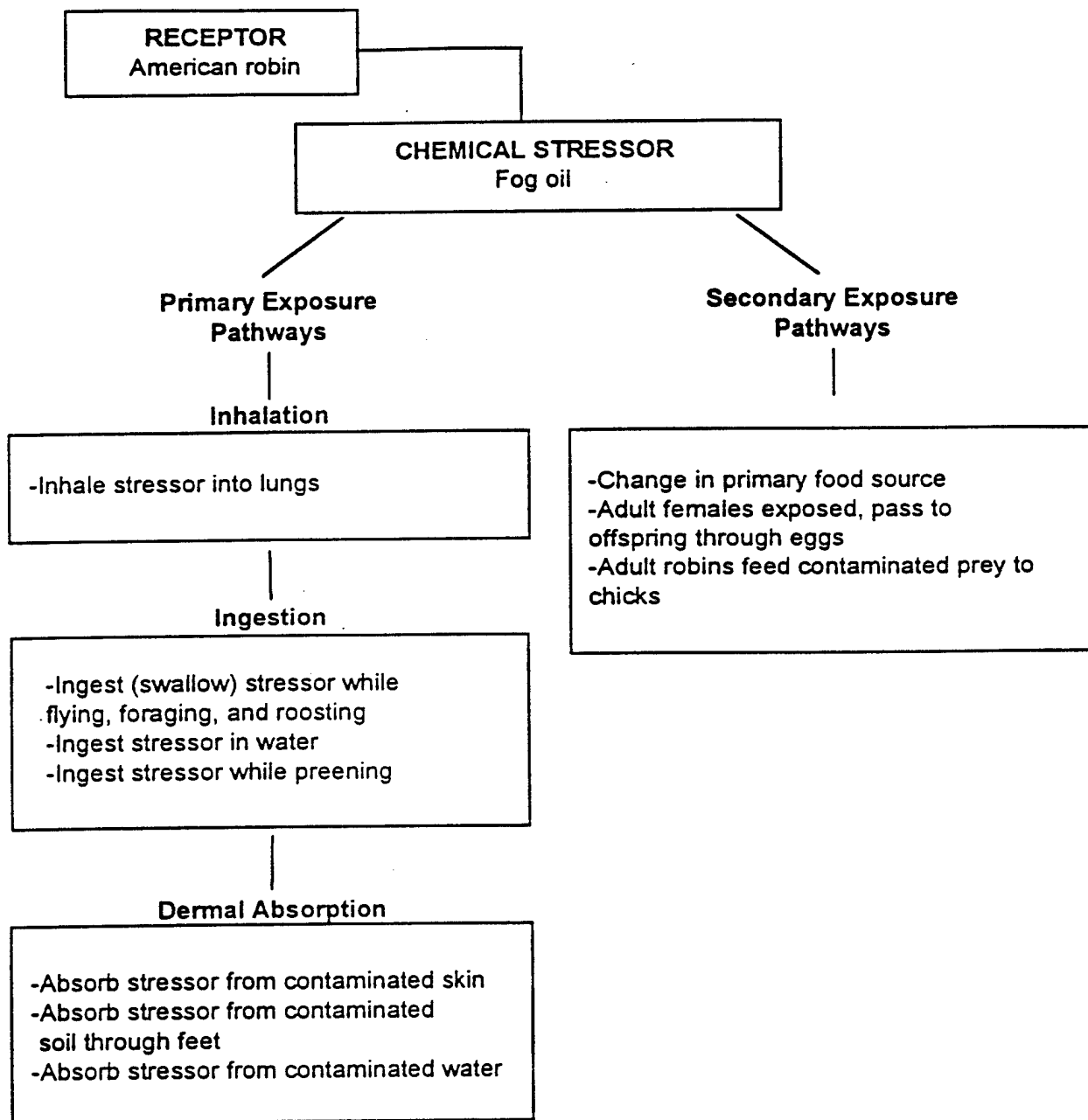


FIGURE 12. Exposure pathway for the American robin.

exchange occurs, robins in eggs do not inhale air. Therefore, an incomplete exposure route exists for the inhalation pathway. American robin chicks (chick = approximately 14 days old) were evaluated for inhalation, ingestion, and dermal absorption exposure pathways. American robin life history information and characteristics used in intake calculations are presented in Table 16.

TABLE 16. Characteristics of American robins used in intake equations.

Factor	Mean
Lifespan of adult	1.5 years*
Length of time as chick	14 days*
Length of time as an egg	14 days*
Body weight of adult	90 grams*
Surface area of adult	198 cm ² **
Ingestion rate of adult	80 g/day**
Inhalation rate of adult	0.041 m ³ /day*
Body weight of chick	55 grams*
Surface area of chick	145 cm ²
Ingestion rate of chick	12 g/day**
Surface area of egg	16.07 cm ² ***

* EPA 1993

** calculated using allometric equations for frogs (EPA 1993)

*** calculated using equation for area of a prolate spheroid

7.3 DETERMINING CONCENTRATIONS AT THE EXPOSURE POINT

We modeled the dispersion of fog oil based on daily and yearly consumption of fog oil for 3 alternatives presented in the DEIS (HBA 1996). We used quantities presented in Table 9 to evaluate effects of static or mobile smoke training.

We assumed all smoke training would occur either in Musgrave Hollow, Ballard Hollow, Cannon Range (Mush Paddle Hollow), Bailey/McCann hollows, Wolf Hollow, or Babb Airfield (Figure 2). Mobile smoke training is proposed in each location. Static smoke training is proposed at Range 29, Range 30, and Range 30F in Bailey Hollow. The 6 smoke training areas are designated in the Fort Leonard Wood Air Permit Application - Project/Facility No. 3860-0004-015 Issued by the State of Missouri, Department of Natural Resources (April 1995). We assumed the maximum daily and percentage of yearly quantities of fog oil would be used in each mobile training area (Tables 9 and 10).

The proposed number of smoke generators varies from 12 generators for mobile fog oil smoke training to 20 generators for static. We made the following assumptions in estimating exposure concentrations:

- All 20 (static) or 12 generators (mobile) are operational and used during a single training event.
- All 20 (static) or 12 generators (mobile) generators run simultaneously until daily maximum of 1200 gallons is exhausted.
- All generators have a consumption rate of 0.66 gallons per minute.
- Fog oil dispersion from M56 and M157 generators is identical.

Figures 13 and 14 illustrate predicted dispersion patterns of fog oil in 3 m/second winds (the average windspeed at the Installation) and Pasquill category E. Dispersion of fog oil from 20 and 12 generators for Pasquill categories B, C, and D was also calculated (Appendix I). Pasquill category E concentration and deposition isopleth plots are presented here as an example.

Acute and chronic inhalation intake calculations were performed to estimate exposure to receptors. We assessed effects at distances delineated by each isopleth (Figures 13 and 14). We used deposition isopleths to estimate exposure for ingestion and dermal absorption pathways (Figures 15 and 16).

7.4 CALCULATING INTAKES

We calculated acute and chronic fog oil intake for inhalation, ingestion, and dermal absorption pathways for each receptor. We assumed 100% absorption of fog oil, regardless of the pathway. This may be conservative because certain chemicals taken into the body or placed on the dermis may not entirely enter the blood stream or pass through the skin. Without specific absorption coefficients for each receptor and fog oil, we assessed the entire exposure concentration as the dose in intake calculations. We assessed effects for adult receptors for Pasquill categories B, C, D, and E. Effects were determined for nonadult life stages for Pasquill category E. We selected Pasquill category E because fog oil travels the greatest distance downwind under Pasquill category E, which would create the greatest effect area and expose the most receptors.

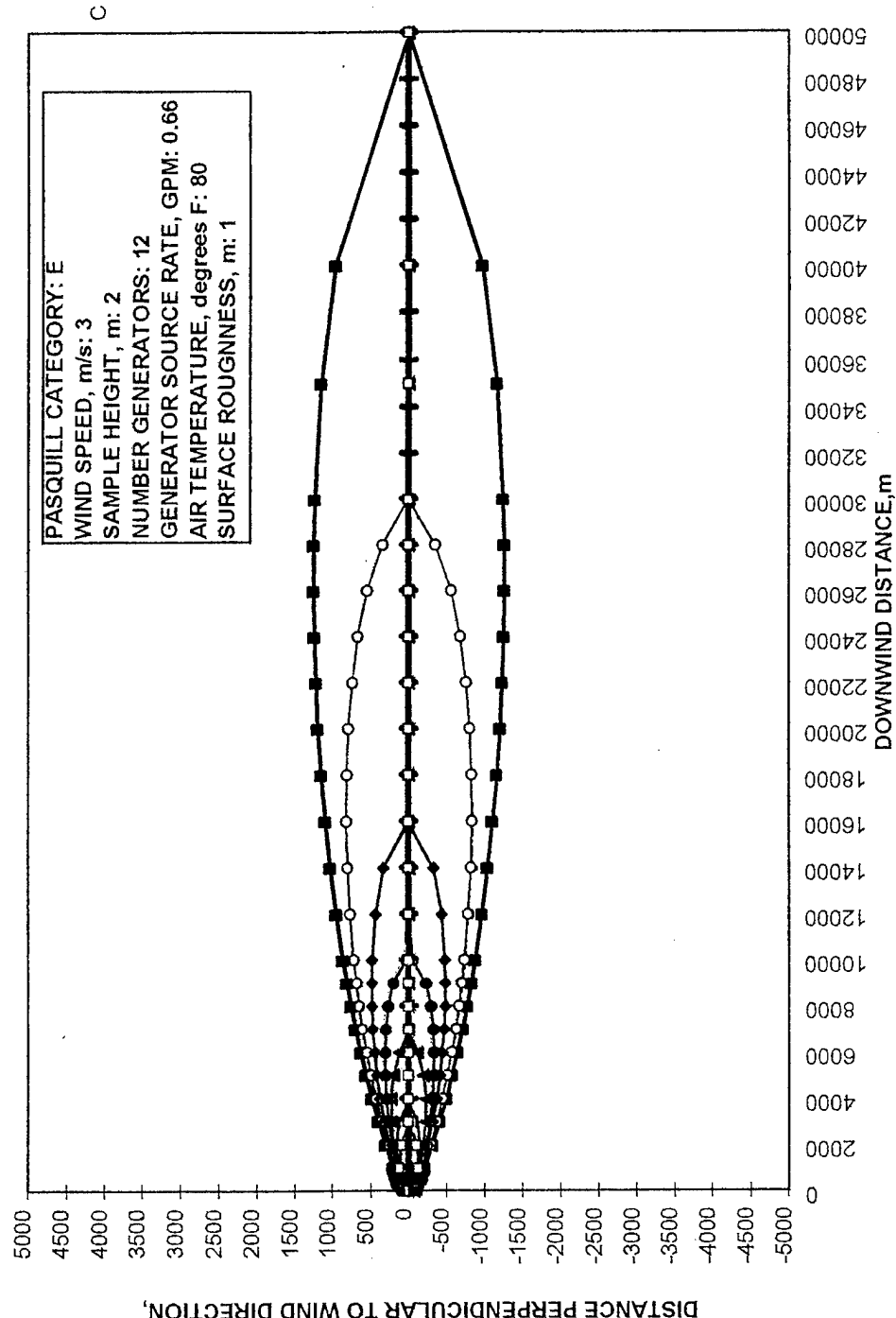


FIGURE 13. Fog oil concentration isopleths for Pasquill category E, 20 generators (static smoke).

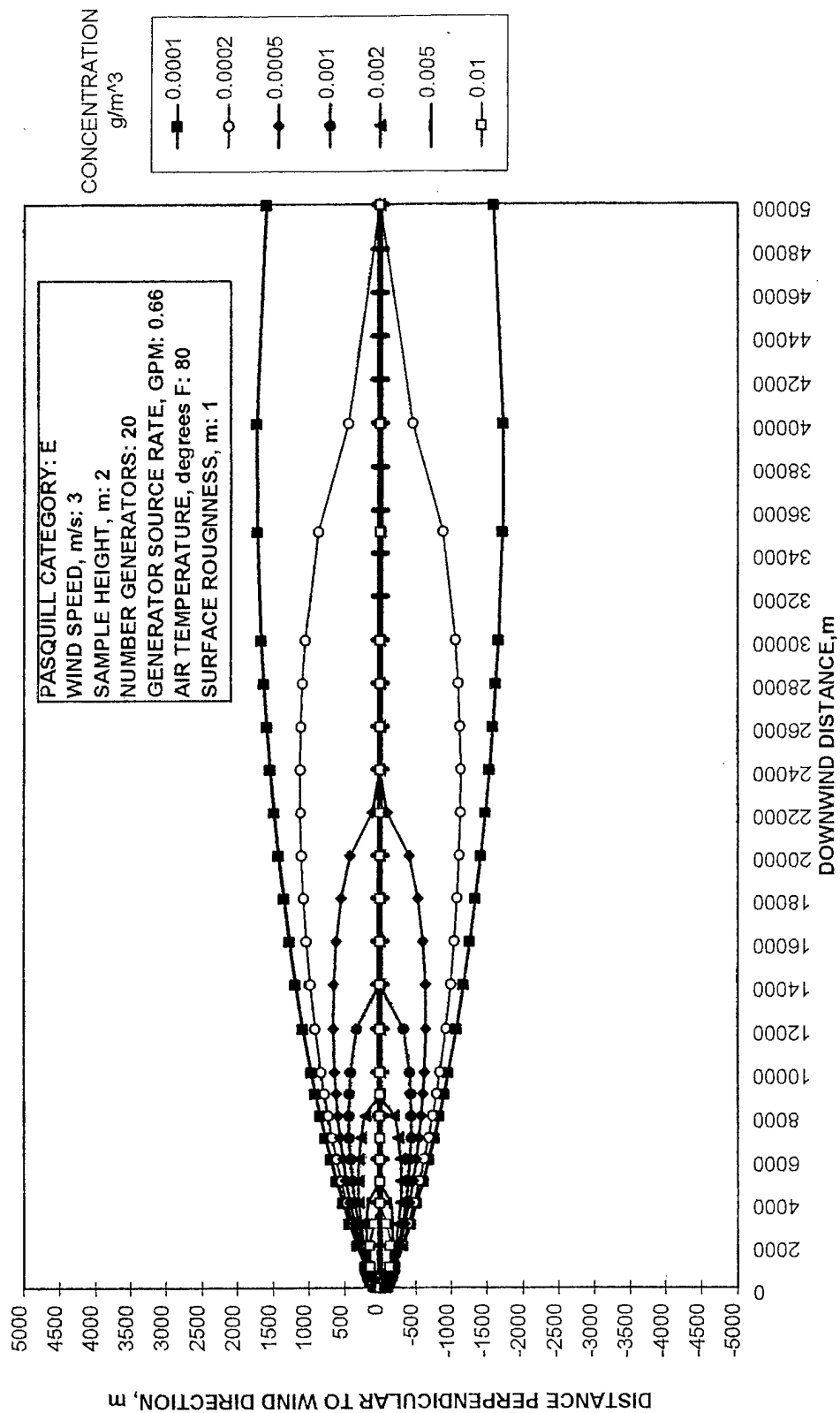


FIGURE 14. Fog oil concentration isopleths for Pasquill category E, 12 generators (mobile smoke).

TIME/SPACE AVERAGED AEROSOL MASS DEPOSITION ISOPLETHS FOR FORESTED HILLY TERRAIN, FT. LEONARD WOOD, MO

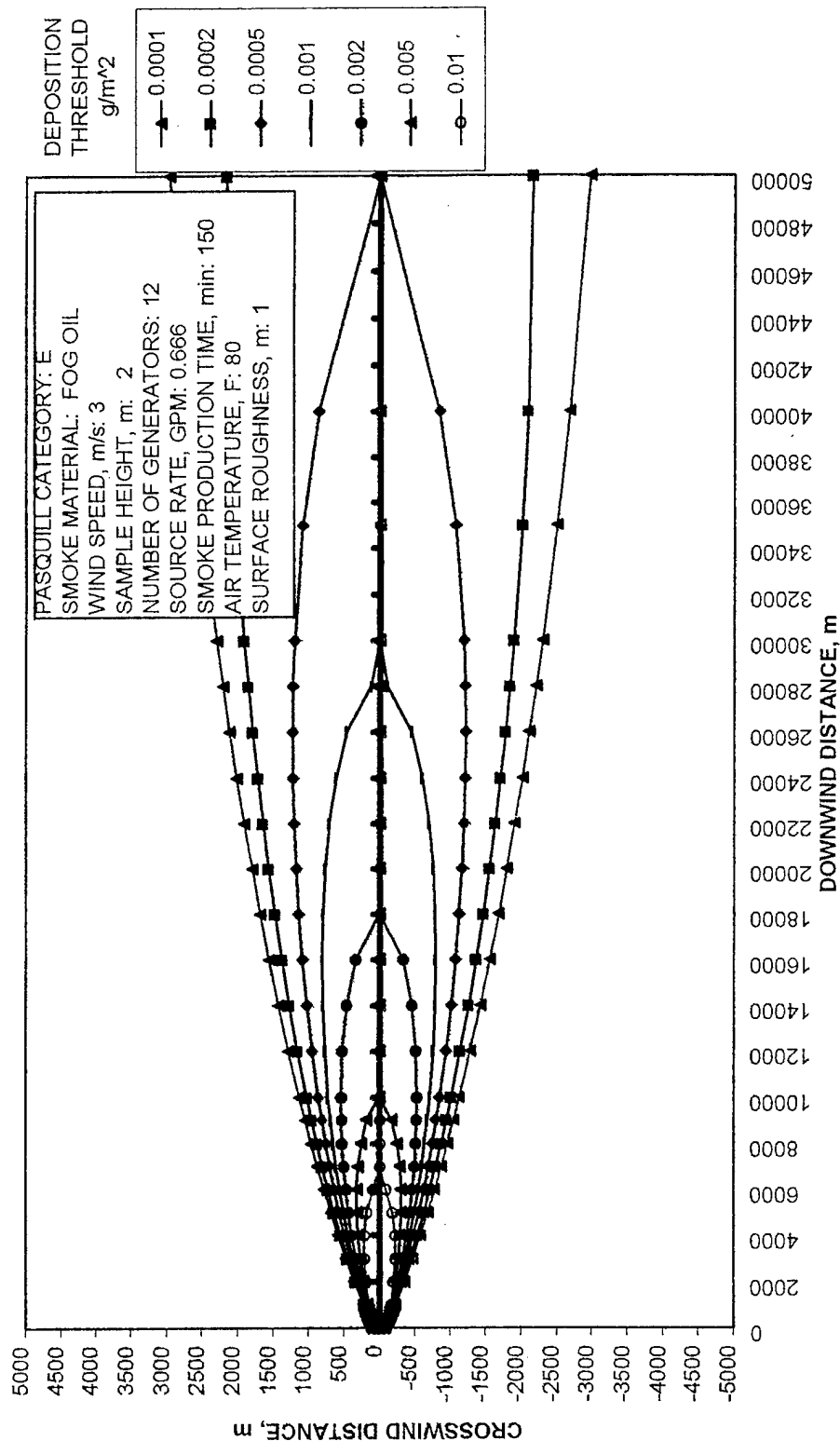


FIGURE 15. Fog oil deposition isopleths for Pasquill category E, 20 generators (static smoke).

TIME/SPACE AVERAGED AEROSOL MASS DEPOSITION ISOPLETHS FOR FORESTED HILLY TERRAIN, FT. LEONARD WOOD, MO

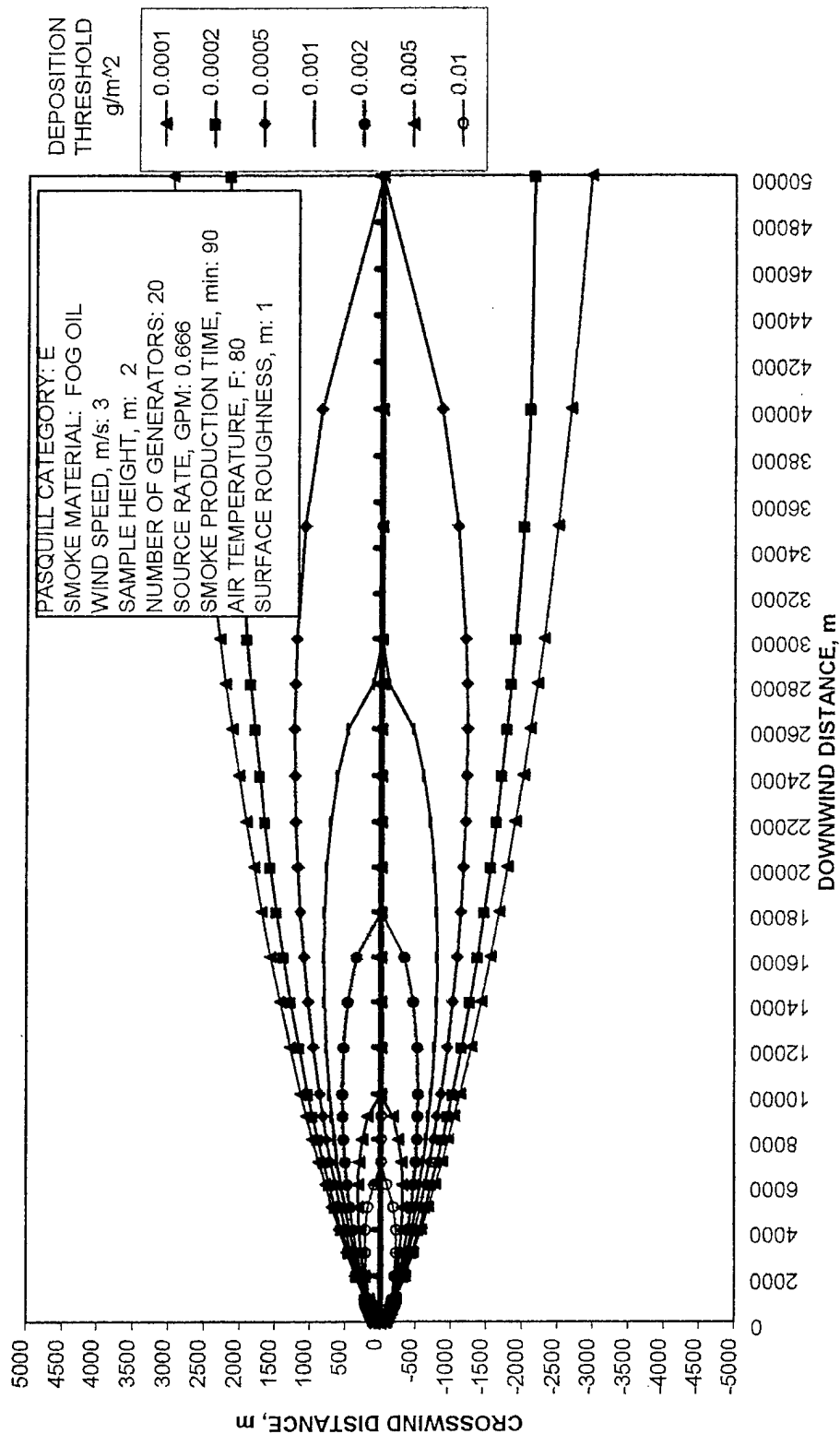


FIGURE 16. Fog oil deposition isopleths for Pasquill category E, 12 generators (mobile smoke).

For inhalation, we calculated the intake for each fog oil training event per Land Use Plan (Table 11) and Training Alternative (Table 10). To calculate exposure frequencies, we used annual consumption of fog oil for either 20 (static) or 12 (mobile) generators using 1200 gallons per day for each alternative (Table 10). Static smoke training, under worst-case conditions, could last for 1.5 hours, and mobile smoke training could last 2.5 hours per day.

In calculating the ingestion of fog oil, we assumed prey consumed by receptors were coated with fog oil. We determined the amount of fog oil that would cover food within areas defined by each deposition isopleth. We selected prey and food items representing average prey or food consumed by each receptor species. Assumptions regarding diets and calculations of prey surface areas for each receptor species are described below:

GREEN FROG

- beetles are the principal component of diet
- assume average size beetle is 19 mm long and 3 mm wide
- surface area of (cylindrical) beetle = $2\pi r(r+h)$
- average weight of beetle (determined from field measurements) = 0.1667 g
- assume frog hibernates beneath surface for one-half of each year of its life

YELLOWBELLY RACER

- racers eat only small mammals (prairie vole, *Microtus ochrogaster*)
- body weight of prairie vole = 30-45 g (Wildlife Exposure Factors Handbook 1993)
- surface area of prairie vole = 139 cm² (Wildlife Exposure Factors Handbook 1993)
- assume racer hibernates beneath the ground for one-half of each year of its life

BOBWHITE QUAIL

- diet is composed of 85% *Lespedeza* seeds and 15% beetles
- assume average size beetle is 19 mm long and 3 mm wide
- surface area of (cylindrical) beetle = $2\pi r(r+h)$
- average weight of beetle (determined from field measurements) = 0.1667g
- assume *Lespedeza striata* seeds 3 mm diameter
- surface area of (spherical) seed = πd^2
- weight of seed = 0.0385 g (estimated by multiplying the proportional relationship between sunflower seed surface area and *Lespedeza* seed surface area by the weight of a sunflower seed)

AMERICAN ROBIN

- diet composed of 85% worms and 15% mulberries
- assume worm is a 7 cm long by 0.25 cm wide
- surface area of (cylindrical) earthworm = $2\pi r(r+h)$
- weight of earthworm = 0.6g
- assume mulberry is a 2 cm long and 1 cm wide
- surface area of (cylindrical) mulberry = $2\pi r(r+h)$

- weight of mulberry = 1.57g (assumed to be mostly water: 1 cm³ = 1 g)
- assume fog oil training occurs during times robins are present at the installation

We used the following equations to estimate inhalation, ingestion, and dermal intakes by receptor species (EPA 1989):

$$\text{Inhalation Intake (g/kg-day)} = (CA)(IR)(ET)(EF)(ED)/(BW)(AT)$$

where:

CA = contaminant concentration in air (g/m³)
 IR = intake rate (m³/hour)
 ET = exposure time (hours/day)
 EF = exposure frequency (days/year)
 ED = exposure duration (years)
 BW = body weight (kg)
 AT = averaging time (lifespan of receptor in days)

$$\text{Ingestion Intake (g/kg-day)} = (CF)(IR)(EF)(ED)/(BW)(AT)$$

where:

CF = quantity of contaminant deposited on food item (g/g)
 IR = intake rate (g/day)
 EF = exposure frequency (days/year)
 ED = exposure duration (years)
 BW = body weight (kg)
 AT = averaging time (lifespan of receptor in days)

$$\text{Dermal Absorption Intake (g/kg-day)} = (CD)(SA)(ABS)(EF)(ED)/(BW)(AT)$$

where:

CD = quantity of contaminant deposited on receptor (g/m²)
 SA = surface area of receptor (m²)
 ABS = absorption factor (unitless), assumed equal to 1 (complete absorption)
 EF = exposure frequency (days/year)
 ED = exposure duration (years)
 BW = body weight (kg)
 AT = averaging time (lifespan of receptor in days)

The intake rate for inhalation was modified to reflect the amount of time the exposure was actually occurring (exposure duration per event).

Intake calculations and input values are given in Appendices II, IV, VI, and IX for green frog, yellowbelly racer, northern bobwhite, and American robin respectively. Intake tables for nonadult life cycle stages are presented in Appendix XI. Intake tables are presented by alternative Pasquill category for each receptor.

Section VIII
Risk Characterization and Discussion

Section VIII:

Risk Characterization and Discussion

8.1 INTRODUCTION

Characterizing risk incurred by receptors as a result of their association with stressors involves integrating toxicological information and values developed in the toxicity assessment with intake values determined in the exposure assessment. This integration approach is recognized and acceptable for human health risk assessments and is being applied to estimate effects to non-human receptors (EPA 1995). When risks are characterized, they can be used to identify stressors that may be toxic to receptors.

Acute and chronic unsafe stressor concentrations are established in the toxicity assessment. We developed TRVs (toxicity reference values) for each receptor adult and other life cycle stages of receptors, and pathway. TRVs are based on a NOAEL or LOAEL, or an effects level, such as LD₅₀. TRVs were developed for each receptor by applying Uncertainty Factors (UFs) to toxicity values generated for other species. The application of UFs accounts for sensitive life cycle stages of the green frog, yellowbelly racer, northern bobwhite, and American robin. Because TRVs are reduced by several UFs, the reduction should account for different sensitivities of test species and receptors, including sensitive life cycle stages.

Exposure concentrations were determined by modeling dispersion and deposition of fog oil in various atmospheric stabilities (Pasquill categories). We considered acute exposure

and acute toxicity values to be based on a single exposure to fog oil, while chronic exposure and toxicity values were based on lifetime exposure to fog oil. We used exposure concentrations to estimate fog oil amounts receptors would intake. Adult receptor intakes were calculated for inhalation, ingestion, and dermal absorption pathways for each receptor for chronic exposures. We adjusted EPA (1989) equations to reflect receptors being chronically exposed to fog oil at Fort Leonard Wood. Acute intake values were based on concentration and deposition isopleths. We did not use chronic exposure intake equations to estimate acute effects. We assessed acute effects based upon the highest one-time contaminant concentrations predicted. Intake values calculated for nonadult life cycle stages were based on the Pasquill categories where the greatest downwind dispersion was estimated for each stressor (Pasquill category E for fog oil).

We evaluated effects from inhalation of fog oil to adult green frogs; adult and juvenile yellowbelly racers; adult, juvenile, and chick northern bobwhites; and adult and chick American robins. We did not consider inhalation or ingestion of fog oil by young in eggs of any receptor species to be a complete exposure pathway, and therefore no intakes or effects are expected to eggs. We assessed effects to the following receptor life stages from ingesting fog oil: adult and tadpole green frogs; adult and juvenile yellowbelly racers; adult, juvenile, and chick northern bobwhites; and adult and chick American robins. We determined potential toxicological effects via the dermal absorption exposure route to: adult green frogs and green frog eggs; adult, juvenile, and eggs of yellowbelly racers; adult, juvenile, chick, and eggs of northern bobwhites; and adult, chick, and eggs of American robins. We assumed green frog tadpoles would not receive concentrations of fog oil from ingesting contaminated prey or respiration through gill membranes. We did not quantify these limited exposure pathways because past studies (Section 10) have shown no evidence of fog oil accumulating in surface water at training areas.

We developed an acute and chronic Hazard Quotient (HQ) for each receptor and each pathway based on modeled fog oil dispersion in Pasquill categories B, C, D, and E. We evaluated effects based on the "worst-case" Pasquill category (E) only for the life cycles stages other than adults. Acute and chronic HQs were determined as follows:

$$HQ_{acute} = \text{Exposure Concentration} \div TRV_{acute}$$

$$HQ_{\text{chronic}} = \text{Chronic Daily Intake} \div TRV_{\text{chronic}}$$

When the hazard quotient is used to characterize non-carcinogenic effects, it provides a tool to realistically compare exposure concentrations to unsafe (toxic) concentrations. Hazard quotients are simple tools that provide point estimates relating presumed exposure concentrations to known or extrapolated effects levels of toxicants (Wentsel et al. 1994).

Risk characterization tables are presented in Appendices III, V, VII, and IX for the green frog, yellowbelly racer, northern bobwhite, and American robin, respectively. Appendices are subdivided by RCP, OPTM, and EPTM training alternatives and Pasquill category. Appendix XI presents the intake and risk characterization tables for nonadult life cycle stages assessed in this ERA. Each table provides distance from the source the concentration or deposition isopleth extends, chronic daily intakes, acute exposure concentration, acute and chronic TRVs, uncertainty adjustments, acute and chronic critical studies, acute and chronic critical effect, acute and chronic HQs, and an effect determination. Tables are organized by training alternatives and Pasquill category for each species.

Acute and chronic effects ($HQs > 1$) are discussed in the following sections. Effects are determined and a brief discussion is presented. We include summary tables with Pasquill categories and distances over which effects are expected to occur for each alternative and receptor where effects are predicted. The approximate percent of the area at Fort Leonard Wood that may be affected (where concentrations exceed safe levels) are included for each receptor and exposure pathway.

We determined areas where acute and chronic effects are expected. The area was estimated by using the length of the maximum axis of the isopleth as a radius of a circle, where the fog oil smoke source is at the circle center. While the plume will not disperse in a circular pattern, we assumed the plume could travel over any of the area within the circle given appropriate wind direction. Fog oil smoke plumes generally travel the greatest distance under Pasquill categories B and E (see Appendix I for dispersion plots for all Pasquill categories).

Toxicological studies that generated toxicity values utilized in this ecological risk assessment also describe effects of experimental exposures to test subjects. These effects are commonly referred to as "critical effects." Because no, or limited, data is available

describing effects likely to be manifested in adult or other life cycle stages of green frogs, yellowbelly racers, northern bobwhites, and American robins, we assume effects will be similar to critical effects reported in the literature. Specifically:

- Inhalation of fog oil
 - acute effect: *oil pneumonia*
 - chronic effects: *minor lesions of the heart, liver, and lungs*
- Ingestion of fog oil
 - acute effects: *weight loss; lesions of the liver, spleen, and kidney*
 - chronic effect: *gastrointestinal irritation*
- Dermal absorption of fog oil
 - acute effect: *slight to moderate skin irritation*
 - chronic effects: *well defined erythema and edema*

We describe direct effects in this section. Direct effects result when the receptor has immediate or intimate contact with the stressor. Indirect effects are caused when stressors reach receptors through a media or transport mechanism. For example, indirect effects may include transfer of contaminant from a mother bird to a nestling (chick) through ingestion of regurgitated food. Indirect effects can cause behavioral changes that affect the individual's ability to survive, avoid predators, mate, reproduce, or obtain food. Indirect effects may occur when prey species populations or food sources are modified.

We do not expect the BRAC action to indirectly affect green frogs, yellowbelly racers, northern bobwhites, or American robins on Fort Leonard Wood. There is little information about the toxicological effects or ecological effects from new fog oil. No information exists to predict changes in receptor populations based upon changes in prey populations or food sources. Measurement endpoints to characterize indirect effects, including indirect effects to receptor *populations*, are not available. Inferences can be made by examining past studies or studies on similar receptors and stressors.

Data collected at Fort McClellan, Alabama by 3D/I indicated similar insect taxa were present at fog oil exposure sites and a reference site. The study did not reveal statistically significant differences in concentrations of fog oil hydrocarbons in insect, vegetation, fish, or

bat tissues from exposure sites and the reference site. Soil, surface water, air, and sediment samples did not show fog oil accumulated in the environment. Based on this information, fog oil is not expected to be incorporated into tissues of prey populations and will likely not bioaccumulate.

Fog oil is not expected to indirectly affect adult or other life cycle stages of green frogs, yellowbelly racers, northern bobwhites, or American robins, but no data exist to predict or evaluate these potential indirect effects with any reasonable certainty. To detect changes that may indirectly effect receptors, Fort Leonard Wood will implement a biomonitoring program. The program will monitor water quality, media toxicity, certain insect populations, selected fish populations, vegetation, and possibly receptor habitats or populations on the installation. The program will detect changes in parameters listed above between exposure sites and reference sites. While natural variability in monitored parameters will preclude certain strict statistical evaluations of differences between exposure and reference sites, Fort Leonard Wood will employ a weight of evidence approach to indicate some change. The biomonitoring plan will also address several ecosystem parameters to allow for the detection of effects at the ecosystem level.

8.2 ACUTE HAZARD QUOTIENTS

None of the calculated acute HQs exceed 1.0. This was true for all receptors (adult and other life cycle stages), exposure pathways, Pasquill categories, static and mobile smoke training, and the 3 alternatives. Based on the quantity of fog oil, number of generators, generator release rates, and other assumptions used in our calculations, *we do not anticipate acute effects to adult or other life cycle stages of green frogs, eastern yellowbelly racers, northern bobwhites, or American robins from inhaling, ingesting contaminated prey, or absorbing fog oil through their dermis.*

8.3 CHRONIC HAZARD QUOTIENTS

Chronic HQs greater than unity indicate the receptor is being exposed to concentrations (doses) that exceed safe (non-toxic) levels. *No chronic effects are anticipated from proposed static smoke training to adult or other life cycle stages of green frogs, eastern*

yellowbelly racers, northern bobwhites, or American robins from inhaling, ingesting contaminated prey, or absorbing fog oil through their dermis.

In instances where we predict mobile smoke training will cause chronic effects ($HQ_{\text{chronic}} > 1.0$), areas exposed to unsafe concentrations vary with Pasquill category. All chronic effects were determined by dosing receptors with the predicted concentration of fog oil during the estimated number of fog oil smoke training events. Effects to nonadult life cycle stages were assessed under Pasquill category E (worst case dispersion) and effects to adult receptors were assessed under Pasquill category B, C, D, and E. This method is based on the assumption that fog oil disperses over areas where receptors occur and the same individual receives the same dose, during fog oil training events, for its lifespan. We used modeled concentrations of fog oil as the dose at exposure points for receptors.

Based on previous studies, fog oil does not appear to concentrate or form any residual in the environment or biota (see Section X). Studies conducted at Fort McClellan, Alabama indicate fog oil does not bioaccumulate (3D/Environmental 1996a). No significant concentrations were found in the tissue (mammalian, fish, insect, or vegetation) or media (soil, surface water, sediment, or air) samples from Fort McClellan we analyzed.

Chronic effects determinations in this study were based on the following assumptions:

- Receptors will receive the same dose (exposure concentration) of fog oil during each fog oil training event.
- Generators will release fog oil at 0.66 gallons per minute.
- Exposure concentrations during a fog oil training event are constant.
- The number of generators to be used is constant: static (20), mobile (12).
- The location of fog oil smoke source will be constant.
- Established TRVs represent effect levels in receptors.
- Modeled concentration and deposition isopleths occur at predicted locations.

Because actual exposure concentrations, detailed training schedules and exact locales of fog oil training were not available, we assumed predicted effects would occur at any of the 6 mobile fog oil smoke training locations at the estimated distances. Quantities of fog oil used to calculate intakes for mobile fog oil training are based on the percent of time each mobile smoke training area can be used annually. The percent of time mobile smoke training can occur at a particular mobile smoke training area was used to calculate the gallons (percent of the yearly quantity for the training alternative) that would be used at a mobile training area for

each training alternative. We determined the percent of area affected on Fort Leonard Wood by calculating the area affected (represented as a circle with the distance a toxic concentration travels as the radius), and determining what percent of Fort Leonard Wood the area represented. The percent of Fort Leonard Wood affected assumes the training is conducted entirely at 1 location and the receptors within the affected area could be at any of the 6 mobile fog oil smoke training areas.

It can not be assumed chronic effects would be eliminated if portions of mobile fog oil training are conducted at separate locations. Effect areas (fog oil smoke plumes) from different smoke training locations may overlap. It is probable that a receptor in 1 training area may inhale, ingest, or absorb fog oil from another training location. Receptors in the vicinity of the smoke training location being used and receptors on distant smoke training locations may be exposed to the same dose during a training event. Effects of training from multiple smoke training locations, or effects to individuals in areas where smoke plumes from ranges may overlap were not assessed.

It is unlikely receptors in overlap areas would receive (be dosed with) all fog oil released from a training area. Risks from mobile training areas were based on receptors receiving the maximum amount expected to be released from each training area. Fog oil dispersion is highly dependent upon Pasquill category, terrain, meteorological conditions, and wind direction. Because of natural variability in these parameters during mobile fog oil training events, it is very doubtful a receptor would receive all fog oil released from a training area. Fog oil should not disperse to the same area every time it is released during a training event.

8.3.1 Green Frog Chronic Hazard Quotients

Several inhalation HQs calculated for green frogs exceed 1.0 for each alternative and Land Use Plan. No chronic inhalation, ingestion, or dermal absorption effects were determined for any of the nonadult life cycle stages (eggs and tadpoles) for green frogs (Appendix XI). All chronic HQs of adult green frogs for ingestion and dermal absorption were less than 1.0. Tables 17, 18, and 18 summarize the effects for RCP, OPTM, and EPTM alternatives respectively, Land Use Plan, and Pasquill category for green frogs. Distances from the generator (source) in which unsafe chronic exposure may occur are indicated.

8.3.1.1 RCP - Relocate Current Practice

No chronic effects were determined for adult green frogs ingestion and dermal absorption (Appendix III). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and tadpoles) for green frogs (Appendix XI). Several inhalation HQs for mobile smoke training exceed 1.0. Adult green frogs within the predicted chronic exposure area may be exposed to unsafe concentrations of fog oil. Table 17 indicates areas where an effect is predicted for each Pasquill category per training location in each Land Use Plan. Under worst case conditions, adult green frogs that inhale estimated concentrations of fog oil during multiple exposures may exhibit adverse effects. Worst case estimations show adult green frogs may inhale toxic concentrations 4000 m from Musgrave Hollow, Cannon Range (Mush Paddle Hollow), Bailey McCann Hollow, and Babb Airfield smoke training areas under Pasquill categories B and E (Table 17).

8.3.1.2 OPTM - Optimum Training Method

No chronic effects were determined for adult green frogs for ingestion or dermal absorption (Appendix III). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and tadpoles) for green frogs (Appendix XI). Several adult inhalation HQs for mobile smoke training exceed 1.0. Adult green frogs within the predicted chronic exposure area may be exposed to unsafe concentrations of fog oil. Table 18 indicates areas where an affect can occur for each Pasquill category. Under worst case conditions, toxic concentrations (inhalation) travel 4000 m in Pasquill categories Band E from Musgrave Hollow, Ballard Hollow, Bailey McCann Hollow, and Wolf Hollow mobile smoke training areas.

TABLE 17. Inhalation effects to adult green frogs from mobile fog oil smoke training for RCP Alternative and 3 Land Use Plans. Distance toxic concentrations travel are provided for Pasquill categories B, C, D, and E. No chronic effects from static fog oil training, or acute effects are anticipated. Greatest distance toxic concentration travels for each mobile smoke training area is used as the radius of a circle with the area of the circle reported in hectares as area affected. Percent of Fort Leonard Wood Affected = area of effect/area of FLW.

Distance (m) Toxic Concentration Travels for Pasquill Category						
Land Use Plan	Mobile Smoke Training Location	B	C	D	E	
Combined Headquarters	Musgrave Hollow	4000	3000	3000	4000	5027
	Ballard Hollow	4000	3000	2500	3000	5027
	Wolf Hollow	4000	3000	2500	3000	5027
	Babb Airfield	4000	3000	3000	4000	5027
Separate Headquarters	Musgrave Hollow	4000	3000	3000	4000	5027
	Bailey/ McCann Hollow	4000	3000	3000	4000	5027
	Wolf Hollow	4000	3000	2500	3000	5027
	Babb Airfield	4000	3000	3000	4000	5027
Combined Headquarters and Instruction	Musgrave Hollow	4000	3000	3000	4000	5027
	Ballard Hollow	4000	3000	2500	3000	5027
	Cannon Range (Mush Paddle Hollow)	4000	3000	3000	4000	5027
	Bailey/ McCann Hollow	4000	3000	3000	4000	5027

TABLE 18. Inhalation effects to adult green frogs from mobile fog oil smoke training for OPTM Alternative and 3 Land Use Plans. Distance toxic concentrations travel are provided for Pasquill categories B, C, D, and E. No chronic effects from static fog oil training, or acute effects are anticipated. Greatest distance toxic concentration travels for each mobile smoke training area is used as the radius of a circle with the area of the circle reported in hectares as area affected. Percent of Fort Leonard Wood Affected = area of effect/area of FLW.

Land Use Plan	Mobile Smoke Training Location	Distance (m) Toxic Concentration Travels for Pasquill Category					Greatest Area Affected (ha)	Percent of Fort Leonard Wood Affected (based on greatest distance)
		B	C	D	E			
Combined Headquarters	Musgrave Hollow	4000	3000	3000	4000	5027	20%	
	Ballard Hollow	4000	3000	3000	3000	5027	20%	
	Wolf Hollow	4000	3000	3000	3000	5027	20%	
	Babb Airfield	4000	3000	2500	3000	5027	20%	
Separate Headquarters	Musgrave Hollow	4000	3000	3000	4000	5027	20%	
	Bailey/ McCann Hollow	4000	3000	2500	3000	5027	20%	
	Wolf Hollow	4000	3000	3000	3000	5027	20%	
	Babb Airfield	4000	3000	2500	3000	5027	20%	
Combined Headquarters and Instruction	Musgrave Hollow	4000	3000	3000	4000	5027	20%	
	Ballard Hollow	4000	3000	3000	3000	5027	20%	
	Cannon Range (Mush Paddle Hollow)	4000	3000	2500	3000	5027	20%	
	Bailey/ McCann Hollow	4000	3000	2500	3000	5027	20%	

TABLE 19. Inhalation effects to adult green frogs from mobile fog oil smoke training for EPTM Alternative and 3 Land Use Plans. Distance toxic concentrations travel are provided for Pasquill categories, B, C, D, and E. No chronic effects from static fog oil training, or acute effects are anticipated. Greatest distance toxic concentration travels for each mobile smoke training area is used as the radius of a circle with the area of the circle reported in Hectares as area affected. Percent of Fort Leonard Wood Affected = area of effect/area of FLW.

Land Use Plan	Mobile Smoke Training Location	Distance (m) Toxic Concentration Travels for Pasquill Category					Greatest Area Affected (ha)	Percent of Fort Leonard Wood Affected (based on greatest distance)
		B	C	D	E			
Combined Headquarters	Musgrave Hollow	4000	3000	2500	3000		5027	20%
	Ballard Hollow	0	0	0	0		0	0
	Wolf Hollow	0	0	0	0		0	0
	Babb Airfield	4000	3000	2500	4000		5027	20%
Separate Headquarters	Musgrave Hollow	4000	3000	2500	3000		5027	20%
	Bailey/ McCann Hollow	4000	3000	2500	4000		5027	20%
	Wolf Hollow	0	0	0	0		0	0
	Babb Airfield	4000	3000	2500	4000		5027	20%
Combined Headquarters and Instruction	Musgrave Hollow	4000	3000	2500	3000		5027	20%
	Ballard Hollow	0	0	0	0		0	0
	Cannon Range (Mush Paddle Hollow)	0	0	0	0		0	0
	Bailey/ McCann Hollow	4000	3000	2500	4000		5027	20%

8.3.1.3 EPTM - Environmentally Preferred Training Method

No chronic effects were determined for adult green frogs for ingestion or dermal absorption (Appendix III). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and tadpoles) for green frogs (Appendix XI). Several inhalation HQs for adult green frogs from mobile smoke training exceed 1.0. Adult green frogs within the predicted chronic exposure area may be exposed to unsafe concentrations of fog oil. Table 19 indicates areas where an effect can occur for each Pasquill category. Under worst case conditions, toxic concentrations (inhalation) travel 4000 m in Pasquill categories B and E from Bailey McCann Hollow, Musgrave Hollow and Babb Airfield mobile smoke training areas.

8.3.2 Yellowbelly Racer Chronic Hazard Quotients

Adult or other life cycle stages (e.g., eggs of yellowbelly racers) at Fort Leonard Wood will not be affected by fog oil smoke training (Appendix V). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and juveniles) for yellowbelly racers (Appendix XI). No acute or chronic hazard quotients for RCP, OPTM, or EPTM exceeded 1.0, regardless of Pasquill category, or exposure pathway. No chronic effects from proposed static or mobile fog oil smoke training are anticipated.

8.3.3 Northern Bobwhite Chronic Hazard Quotients

Adult or other life cycle stages (eggs, chicks, or juveniles) of northern bobwhites at Fort Leonard Wood will not be affected by fog oil smoke training. No chronic effects were determined for ingestion, dermal absorption, or inhalation (Appendix VII). No acute or chronic hazard quotients for RCP, OPTM, or EPTM training alternatives exceeded 1.0, regardless of Pasquill category, or exposure pathway. No chronic effects from proposed static or mobile fog oil smoke training are anticipated.

8.3.4 American Robin Chronic Hazard Quotients

Adult American robins on Fort Leonard Wood may be affected by fog oil smoke training. No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and chicks) for American robins (Appendix XI). Several inhalation HQs calculated for adult American robins exceed 1.0. All chronic HQs for ingestion and dermal absorption were less than 1.0. Tables 20 and 21 present summaries of effects for RCP and OPTM alternatives and Pasquill category for adult robins. We do not anticipate any chronic inhalation, ingestion, or dermal absorption toxicological effects to adult American robins from the EPTM training Alternative. Distances from the generator (source) in which unsafe chronic exposure may occur are provided. No chronic effects from proposed static fog oil smoke training are anticipated.

8.3.4.1 RCP - Relocate Current Practice

No chronic effects were determined for adult American robins for ingestion and dermal absorption (Appendices V, VI and VII). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and chicks) for American robins (Appendix XI). Several inhalation HQs of adult American robins for mobile smoke training exceed 1.0. Adult robins within predicted chronic exposure areas may be exposed to unsafe concentrations of fog oil. Table 20 indicates areas where an affect can occur for each Pasquill category under RCP Alternative. Under worst case conditions, toxic concentrations (inhalation) travel 4000 m in Pasquill category B from Musgrave Hollow, Cannon Range (Mush Paddle Hollow), Babb Airfield, or Bailey McCann Hollow mobile smoke training areas.

8.3.4.2 OPTM - Optimum Training Method

No chronic effects were determined for ingestion and dermal absorption for adult American robins (Appendix IX). No chronic inhalation, ingestion, or dermal absorption effects were determined for nonadult life cycle stages (eggs and chicks) for American robins (Appendix XI). Several inhalation HQs of adult American robins for mobile smoke training exceed 1.0 for the OPTM training alternative. Adult robins within predicted chronic exposure areas may be exposed to unsafe concentrations of fog oil. Table 21 indicates areas

TABLE 20. Inhalation effects to adult American robins from mobile fog oil smoke training for RCP Alternative and 3 Land Use Plans. Distance toxic concentrations travel are provided for Pasquill categories B, C, D, and E. No chronic effects from static fog oil training, or acute effects are anticipated. Greatest distance toxic concentration travels for each mobile smoke training area is used as the radius of a circle with the area of the circle reported in hectares as area affected. Percent of Fort Leonard Wood Affected = area of effect/area of FLW.

Land Use Plan	Mobile Smoke Training Location	Distance (m) Toxic Concentration Travels for Pasquill Category					Greatest Area Affected (ha)	Percent of Fort Leonard Wood Affected (based on greatest distance)
		B	C	D	E			
Combined Headquarters	Musgrave Hollow	4000	3000	2500	3000		5027	20%
	Ballard Hollow	0	0	0	0		0	0
	Wolf Hollow	0	0	0	0		0	0
	Babb Airfield	4000	3000	2500	3000		5027	20%
Separate Headquarters	Musgrave Hollow							
	Bailey/ McCann Hollow	4000	3000	2500	3000		5027	20%
	Wolf Hollow	0	0	0	0		0	0
	Babb Airfield	4000	3000	2500	3000		5027	20%
Combined Headquarters and Instruction	Musgrave Hollow							
	Ballard Hollow	4000	3000	2500	3000		5027	20%
	Cannon Range (Mush Paddle Hollow)	0	0	0	0		0	0
	Bailey/ McCann Hollow	4000	3000	2500	3000		5027	20%
		4000	3000	2500	3000		5027	20%

TABLE 21. Inhalation effects to adult American robins from mobile fog oil smoke training for OPTM Alternative and 3 Land Use Plans. Distance toxic concentrations travel are provided for Pasquill categories B, C, D, and E. No chronic effects from static fog oil training, or acute effects are anticipated. Greatest distance toxic concentration travels for each mobile smoke training area is used as the radius of a circle with the area of the circle reported in hectares as area affected. Percent of Fort Leonard Wood Affected = area of effect/area of FLW.

Land Use Plan	Mobile Smoke Training Location	Distance (m) Toxic Concentration Travels for Pasquill Category					Greatest Area Affected (ha)	Percent of Fort Leonard Wood Affected (based on greatest distance)	
		B	C	D	E				
Combined Headquarters									
	Musgrave Hollow	4000	3000	2500	3000		5027	20%	
	Ballard Hollow	0	0	0	0		0	0	
	Wolf Hollow	0	0	0	0		0	0	
	Babb Airfield	0	0	0	0		0	0	
Separate Headquarters									
	Musgrave Hollow	4000	3000	2500	3000		5027	20%	
	Bailey/ McCann Hollow	0	0	0	0		0	0	
	Wolf Hollow	0	0	0	0		0	0	
	Babb Airfield	0	0	0	0		0	0	
Combined Headquarters and Instruction									
	Musgrave Hollow	4000	3000	2500	3000		5027	20%	
	Ballard Hollow	0	0	0	0		0	0	
	Cannon Range (Mush Paddle Hollow)	0	0	0	0		0	0	
	Bailey/ McCann Hollow	0	0	0	0		0	0	

*No effects were determined for indicated mobile smoke ranges

where an effect can occur for each Pasquill category. Under worst case conditions, toxic concentrations (inhalation) travel 4000 m in Pasquill categories B and E from Musgrave Hollow mobile smoke training area.

8.4 SUMMARY

Fog oil training proposed under the RCP, OPTM, and EPTM alternatives has potential to affect adult green frogs. Fog oil training proposed under RCP and OPTM alternatives has the potential to affect adult American robins at Fort Leonard Wood. Other amphibians and birds with comparable life history characteristics may be affected similarly.

We anticipate no acute toxicological effects to the species studied, regardless of exposure pathway, or atmospheric stability in which the training occurs.

We predict no chronic effects from dermal exposure or ingestion of fog oil contaminated food sources by receptors we analyzed. We do not anticipate any chronic effects from inhalation of fog oil by adult yellowbelly racers or adult northern bobwhites. We do not anticipate chronic effects from inhalation, ingestion, or dermal absorption to nonadult life stages of green frogs (eggs and tadpoles), yellowbelly racers (eggs or juveniles), northern bobwhites (eggs, chicks, or juveniles), or American robins (eggs and chicks).

Chronic effects to adult green frogs and adult American robins may occur under the training scenarios and assumptions we assessed. Chronic effects we describe are anticipated only through the inhalation exposure pathway.

Toxicological effects associated with the inhalation of unsafe doses of fog oil are oil pneumonia, immunodepression, and minor lesions of the heart, liver, and lungs. Adverse effects associated with ingestion of fog oil include weight loss, lesions of the liver, spleen, and kidney, and gastrointestinal irritation. Dermal chronic toxicological effects expected are skin irritation, well defined erythema, and edema. These toxicological effects are based on critical studies involving mammals. It is assumed similar effects would be manifested in amphibians, reptiles, and birds.

Section IX
Assumptions and Uncertainty Analysis Discussion

Section IX:

Assumptions and Uncertainty Analysis Discussion

9.1 ASSUMPTIONS

9.1.1 Stressor Characteristics

The following assumptions were made with respect to fog oil as a chemical stressor at Fort Leonard Wood:

1. receptor exposure to stressors was worst-case (i.e., maximum potentially available stressor quantity) when site specific information was not known
2. mobile fog oil use is proposed in 6 smoke training areas at Fort Leonard Wood: Musgrave Hollow, Ballard Hollow, Mush Paddle Hollow, Bailey/McCann Hollow, Wolf Hollow, and Babb Airfield
3. annual quantity of fog oil consumed by static smoke training for RCP training alternative is 20,000 gallons per year; OPTM is 8500 gallons per year; and EPTM is 1100 gallons per year
4. mobile or static fog oil smoke training would use a maximum quantity of 1200 gallons per day

5. annual quantity of fog oil consumed by mobile smoke training for RCP training alternative is 105,500 gallons per year; 76,000 gallons per year for OPTM; and 48,400 gallons per year for the EPTM training alternative
6. daily exposure time equals the daily fog oil consumption rate (gallons/day) divided by the generator output rate of 0.66 gallons/minute-generator times the number of generators
7. the number of fog oil training events per year (i.e., exposure frequency) equals the annual consumption of fog oil (gallons/year) divided by the maximum daily use quantity (gallons/day)
8. modeled concentrations of stressors represent realistic potential exposures
9. TREMS 1 air dispersion model accurately predicts fog oil dispersion under Pasquill categories B, C, D, and E
10. receptors will receive the same dose (exposure concentration) of fog oil during each fog oil training event
11. number of generators to be used is constant: static (20), mobile (12)
12. location of fog oil smoke source will be constant
13. 40% of the total yearly quantity of fog oil will be released from Musgrave Hollow, 20% will be released from Ballard or Wolf hollows, 25% from Mush Paddle Hollow, and 30% from Bailey McCann Hollow or Babb Airfield

9.1.2 Receptors

Behavior and ecology of receptors affect their likelihood, duration, and frequency of exposure to stressors. The following assumptions were made with respect to green frogs, yellowbelly racers, northern bobwhites, and American robins (receptors):

1. all receptors are found in all the smoke training areas

2. all receptors may lay their eggs in any of the training locations
3. all receptors are residents at Fort Leonard Wood
4. green frog adults live for 5 years, but exposure duration was considered to be 2.5 years because the frogs bury themselves into mud and are not exposed for 6 months every year.
5. green frog tadpoles lifespan = 13 months, but exposure duration is 9 months because tadpoles are not exposed in winter while they are burrowed in mud
6. green frog eggs lifespan = 3 days
7. green frog body weight of adult = 49 grams
8. green frog surface area of adult = 17 cm^2
9. green frog ingestion rate of adult = 0.83 g/day
10. green frog inhalation rate of adult = $2.5 \times 10^{-4} \text{ m}^3/\text{day}$
11. green frog ingestion rate of tadpole = $0.34 \text{ m}^3/\text{day}$
12. green frog surface area of egg = 0.07 cm^2
13. green frog eggs are spherical in shape
14. any of the receptors may forage or feed anywhere in the smoke training areas
15. beetles are the principal component of green frog diet
16. assume average size beetle eaten by green frog is 19 mm long and 3 mm wide (determined from field measurements)
17. surface area of (cylindrical) beetle eaten by green frog = $2\pi r(r+h)$

18. average weight of beetle (determined from field measurements) eaten by green frog = 0.1667 g
19. assume green frog is not exposed to fog oil while hibernating beneath surface for one-half of each year of its life
20. for all receptors, we calculated dermal absorption assuming complete coverage of the organism and 100% absorption
21. number of exposure points was appropriate and no exposure points were missed
22. identified exposure pathways were complete and no pathways were missed
23. allometric equations used to calculate intake rates accurately represent intake rates of receptors
24. the same individual receptors were exposed year after year (i.e., chronic effects are to an individual exposed for its lifetime)
25. yellowbelly racer lifespan of adult = 8 years
26. length of time as juvenile for yellowbelly racer = 1 year
27. length of time as an egg of yellowbelly racer lives = 3 months
28. body weight of adult yellowbelly racer = 250 grams
29. surface area of adult yellowbelly racer = 131 cm²
30. ingestion rate of adult yellowbelly racer = 22 g/day
31. inhalation rate of adult yellowbelly racer = 4.1×10^{-3} m³/day (used *Nerodia sipedon*) (determined from EPA 1993)
32. body weight of juvenile racer = 28 grams

33. surface area of juvenile yellowbelly racer = 65.5 cm^2
34. ingestion rate of juvenile racer = 22 g/day
35. surface area of yellowbelly racer egg = 22 cm^2
36. racer eggs are cylindrical with hemispherical endcaps
37. racers eat only small mammals (prairie vole, *Microtus ochrogaster*)
38. body weight of prairie vole eaten by racers = 30-45 g (determined from EPA 1993)
39. surface area of prairie vole eaten by racer = 139 cm^2 (determined from EPA 1993)
40. racer hibernates beneath the ground for one-half of each year of its life, therefore exposure duration is 6 months per year
41. lifespan of adult northern bobwhite = 9 years
42. length of time as northern bobwhite juvenile = 108 days
43. length of time as northern bobwhite chick = 42 days old
44. length of time as an northern bobwhite egg = 23 days
45. body weight of adult northern bobwhite = 200 grams
46. surface area of adult northern bobwhite = 320 cm^2
47. ingestion rate of adult northern bobwhite = 16 g/day
48. inhalation rate of adult northern bobwhite = $1.1 \times 10^{-1} \text{ m}^3/\text{day}$
49. body weight of juvenile northern bobwhite = 150 grams
50. surface area of juvenile = 280 cm^2

51. ingestion rate of juvenile northern bobwhite = 12.9 g/day
52. body weight of northern bobwhite chick = 60 grams
53. surface area of northern bobwhite chick = 153 cm²
54. ingestion rate of northern bobwhite chick = 12.9 g/day
55. surface area of northern bobwhite egg = 24.6 cm²
56. northern bobwhite egg is oblate spheroid shaped
57. northern bobwhite diet is composed of 85% *Lespedeza* seeds and 15% beetles
58. average size of beetle eaten by northern bobwhite is 19 mm long and 3 mm wide
(determined from field measurements)
59. surface area of (cylindrical) beetle eaten by bobwhite = $2\pi r(r+h)$
60. average weight of beetle eaten by bobwhite (determined from field measurements) =
0.1667g
61. *Lespedeza striata* seeds 3 mm diameter (determined from field guides)
62. surface area of (spherical) seed = πd^2
63. weight of seed = 0.0385 g (estimated by multiplying the proportional relationship between
sunflower seed surface area and *Lespedeza* seed surface area by the weight of a
sunflower seed)
64. lifespan of adult American robin = 1.5 years
65. American robin length of time as chick = 14 days
66. American robin length of time as an egg = 14 days

67. American robin body weight of adult = 90 grams
68. surface area of adult American robin = 198 cm^2
69. ingestion rate of adult American robin = 80 g/day
70. inhalation rate of adult American robin = $0.041 \text{ m}^3/\text{day}$
71. body weight of American robin chick = 55 grams
72. surface area of American robin chick = 145 cm^2
73. ingestion rate of American robin chick = 12 g/day
74. surface area of American robin egg - 16.07 cm^2
75. American robin eggs are prolate spheroid shaped
76. American robin diet composed of 85% worms and 15% mulberries
77. worms eaten by American robin are 7 cm long by 0.25 cm wide (determined from field measurements)
78. surface area of (cylindrical) earthworm eaten by American robin is $= 2\pi r(r+h)$
79. weight of earthworms eaten by American robins = 0.6g (determined from field measurements)
80. mulberry eaten by robin is a 2 cm long and 1 cm wide (determined from field measurements)
81. surface area of (cylindrical) mulberry eaten by robin $= 2\pi r(r+h)$
82. weight of mulberry eaten by American robin = 1.57g (assumed to be mostly water: $1 \text{ cm}^3 = 1 \text{ g}$) (determined from field measurements)

83. fog oil training occurs during times receptors are present at the installation

9.1.3 Toxicity Values

Toxicity values are determined from available studies and are rarely available for receptor species of interest. In the absence of species specific information, available data is generally applied to receptors with the use of uncertainty adjustments. The following assumptions were made with respect to toxicity values:

1. Toxicity Reference Values (TRVs) are unbiased and representative for green frogs, yellowbelly racers, northern bobwhites, and American robins
2. effects described in critical studies will be similar to effects to green frogs, yellowbelly racers, northern bobwhites, and American robins
3. stressors of concern have same pharmacokinetic effects in receptor species as in test species from which toxicity value was derived
4. TRVs represent conservative threshold values and are protective of threatened and endangered species
5. an exposure concentration greater than a TRV is unsafe, while an exposure concentration less than a TRV is safe
6. uncertainty factors applied to toxicity values are appropriate, protective, and applicable for receptors in this study
7. extrapolation of toxicity values from species to species is appropriate
8. no synergistic, additive, or antagonistic effects of fog oil with other potential receptors
9. acute and chronic toxicity values selected to derive TRVs were appropriate for all receptors
10. fog oil smoke has the same toxicity as liquid fog oil
11. receptors in this study are as sensitive to fog oil as other species in their taxa

9.1.4 Exposure Assessment

The exposure assessment phase of an ERA quantifies the dose receptors will intake for each stressor. Before the dose (intake) can be determined, exposure pathways, routes of exposure, and concentrations at exposure points must be estimated. We made several assumptions in the exposure assessment about receptors (life history, physiology, diet) and the release and characteristics of fog oil that are presented in Sections 9.1.1 and 9.1.2. The following are additional assumptions made in the exposure assessment.

1. Fog oil is deployed from 6 mobile smoke training areas (Ballard Hollow, Wolf Hollow, Bailey-McCann Hollow, Musgrave Hollow, Cannon Range = Mush Paddle Hollow, and Babb Airfield) and 2 static smoke training areas (Range 30 and 30F) which are exposure points
2. releases will occur within the perimeter of smoke training areas
3. assumptions used to determine exposure point concentrations are appropriate
4. mobile smoke training will not exceed the predicted percentages of total yearly gallons for each smoke training area
5. fog oil training event duration and number of training events per smoke training area are representative and realistic estimates of future (proposed training)
6. receptors in overlap areas will not receive enough fog oil from both locations to be at greater risk than predicted
7. receptors will be on the installation and in a position where their exposure

9.1.5 Risk Characterization

Risk characterization is a process of integrating exposure and effect relationships, and relating effects to receptor populations. A fundamental tool of risk characterization is the Hazard Quotient (HQ). We made the following assumptions regarding Hazard Quotients:

1. HQs are reliable and unbiased estimators of risk or unacceptable exposure, and adequately define a potential effect
2. risks associated with HQs greater than 1.0 were considered an effect, but magnitudes of risks or impacts were not determined
3. assumptions used to determine risks may over estimate risks, but do not under estimate risks to receptors

9.2 UNCERTAINTY ANALYSIS AND DISCUSSION

All risk assessments include uncertainties. As part of estimating risks, uncertainties result, especially in predictive risk assessments. It is important to limit the number of uncertainties where possible, by basing the assessment on realistic, accurate, site-specific data. Most risk assessments involve the use of assumptions. These assumptions, based on best professional judgment, increase the degree of uncertainty of the risk assessment. Uncertainty can also result from:

- imperfect knowledge of ecosystem function and the ecological role of receptors
- failure to identify and temporally or spatially interrelate exposure
- incorrectly defining ecological effects to receptors from stressors
- inaccurately addressing, recognizing, or characterizing secondary (indirect) effects
- inadequately characterizing stressors
- the selection of inappropriate estimators of risks.

This ERA is predictive and was conducted to estimate risks from the proposed BRAC action. This ERA supports the Environmental Impact Statement for the BRAC action at Fort Leonard Wood. Risks were determined for fog oil stressors that will be introduced when the BRAC action is implemented. This ERA provides information about the potential for fog oil to affect receptors. It estimates the number of individuals that may be affected. Although it includes assumptions and other uncertainties, the ERA is a valuable predictive tool for decision makers.

Section 9.1 of this ERA presents assumptions made regarding stressors, receptors, toxicity values, exposure assessment and risk characterization. The following section describes uncertainty in the analysis resulting from use of these assumptions.

9.2.1 Stressors

Fog oil, the stressor evaluated for this ERA, is an obscurant. Because this chemical has not been used at Fort Leonard Wood, we could not collect site-specific, empirical field data regarding its dispersion.

In the absence of comprehensive site-specific empirical data, we employed modeling in this analysis. We used the best technology available at reasonable cost to model stressor dispersion and concentration under various atmospheric stability categories. Modeling introduces uncertainty. The dispersion model (TREMS1) used in this assessment was developed by the military specifically for obscurants. The dispersion of obscurants is affected by terrain and atmospheric conditions. It is not possible to predict the precise combinations of terrain and atmospheric conditions that will be present when obscurants are deployed. We modeled stressor dispersion under a variety of atmospheric stabilities and average terrain conditions. Assuming average terrain conditions may cause imprecise predictions of stressor concentrations at exposure points.

The model also has other limitations that may affect their output. The TREMS1 air dispersion model does not accurately predict stressor concentrations at distances less than 50 - 100 meters from the source. Exposure and resulting risk we predicted in these small areas may not be accurate.

The quantity, release mechanism, precise location, and number of stressor deployment events per year was estimated. Estimates are based upon the best available information. When site specific or definitive information was unavailable concerning the amount of stressor to be deployed per unit time (or area), we based calculations upon the maximum amount of stressor (or least distant deployment site) expected. This approach, although appropriate when information was unavailable, is conservative and probably overestimates risks.

The fate and transport of fog oil in the environment was given consideration in assessing effects. We collected empirical data assessing the fate, and residence time of fog oil only in our studies completed at Fort McClellan. If fog oil remains in the environment longer than predicted, risks associated with these stressors may be underestimated in our assessment.

Other chemical stressors and fog oil may be released simultaneously during multiple training events. We did not address effects from multiple and/or simultaneous stressor releases. Our characterization of risks to these receptors may not have been fully assessed. Risks from fog oil were based on the maximum quantity to be used at each training location. Fog oil may have many possible release locations and training scenarios. While we assumed the maximum daily limit would be released from any 1 training location, we did not assessed effects to receptors that may repeatedly receive the maximum daily amount from 2 or more locations. The effects of fog oil were assessed based on the predicted amount of fog oil to be used at training locations. Receptors between (in overlap areas) training locations may receive higher doses than predicted in this ERA. Additional studies are required to adequately characterize effects of exposure to multiple stressors and multiple exposures.

Receptors may be exposed to more than 1 chemical stressor during their lifetime, but these exposures and resulting effects can not be predicted with a reasonable level of certainty. It is beyond the scope of this analysis to predict these effects. This analysis would require information not currently available, including the number and frequency of exposure to each stressor. Risks to certain receptors may be underestimated in this ERA.

9.2.2 Receptors

The public and U.S. Fish and Wildlife Service expressed concerns during EIS scoping regarding effects of fog oil to ecological receptors which were not federally listed species. Assessment endpoints of this ERA were selected from many potential receptors. Three taxonomic groups were suggested by the U.S. Fish and Wildlife Service. The receptors selected for this ERA were required to be representative of all members of the taxonomic groups. We selected receptors based on specific criteria. We incorporated opinions and comments made by the U.S. Fish and Wildlife Service and Missouri Department of Conservation in our selection process. Appendix X documents the selection process.

When precise, site-specific information describing the proposed action or receptors was not available, we conservatively developed estimates (i.e. we included estimates that assume the proposed action will occur in a manner most likely to affect the species). For example, we assumed stressors would be deployed during the seasons receptors are present (e.g. if fog oil was going to be released 70 days per year, we assumed the releases would occur while green

frogs would be above ground on the Installation). This approach, necessitated when important information was not available, may overestimate actual exposure.

We estimated the exposure of receptors, including those involved in activities typical for the species, and multiple life cycle stages. The amount of time receptors perform activities exposing them to stressors was estimated, but based on best professional judgment. Our estimates were based on the upper bound percentile rather than the average. For example, green frogs may lay eggs in the spring or fall. Tadpoles that develop from spring laid eggs may mature by fall, but we considered the lifespan of this sensitive life cycle stage to last 13 months to account for those that do not mature by fall. We used a similar approach in estimating the time adults and nonadult life stages would be exposed to stressors. Intake parameters reflect the largest exposure each species/life stage could reasonably be expected to encounter. For example, we considered the entire surface area of American robin eggs as an exposure point. Realistically, the egg is sheltered by the nest and may be exposed to stressor deposition on only its upper surface. We did not account for stressors being removed from the surface of eggs when they are turned in the nest by adult robins.

Where certain information was lacking, we made assumptions that could be considered "worst case." We assumed all the food receptors consumed on days when an exposure event occurred was contaminated. We assumed all of the stressor deposited on receptor's skin was absorbed. We assumed stressor that was ingested or inhaled was absorbed, rather than passed through the receptor's body. Based on best professional judgment, we selected typical food sources for each receptor that would have the greatest amount of stressor on them. For example, we assumed yellowbelly racers ate prairie voles on the days when stressors were deployed. Prairie voles have larger surface areas than most racer prey and more potential to encounter greater concentrations of the stressor. These types of assumptions add uncertainty to the risk assessment, yet they are unavoidable.

Our effects determinations involve uncertainty. Although we evaluated direct effects quantitatively, indirect effects were evaluated qualitatively. The biomonitoring plan to be developed by the Installation will detect changes in the ecosystem at Fort Leonard Wood after from the BRAC action. This plan will incorporate monitoring of endangered and threatened species populations, and certain habitats. The installation will also assess changes in established biocriteria (e.g., index of biological integrity - IBI; and Ephemeroptera, Plecoptera,

Trichoptera - EPT). While this does not reduce the uncertainty, it will assist in preventing or detecting indirect effects incompletely characterized in this ERA.

9.2.3 Toxicity Values

There are unavoidable uncertainties associated with the toxicity assessment in this ERA. Because specific toxicity values were not developed for stressors and receptors, we developed Toxicity Reference Values (TRVs) for each receptor. The TRV may not adequately represent a safe toxicity value for every individual receptor, including sensitive life cycle stages. We applied Uncertainty Factors (UFs) to each TRV to develop toxicity values. Without specific toxicity testing of each receptor, or at least most sensitive life stages of the receptors (e.g., pregnant or gravid females), we can not quantify the uncertainty involved with application of Uncertainty Factors.

The toxicity values upon which we based TRVs may not be representative of receptors in this ERA, and the critical effects described may not be accurate. It is not known how well, for example, a rat (test species) represents a northern bobwhite. The 2 species may have different pharmacokinetics or pharmacodynamics. The bobwhite may be better able to rid itself of the stressor than the rat.

Available toxicity values may not adequately address all receptor life cycle stages. For example, a toxicity value developed for a rat may not account for a reduction in respiration through the interstitial spaces of an American robin egg. We do not know if the test species adequately represent the stressor response model for receptors. This area of uncertainty is common in risk assessments, and is unavoidable until receptor-specific testing is completed. We believe our application of UFs appropriately addresses this source of uncertainty.

9.2.4 Exposure Assessment

Uncertainties in the exposure assessment resulted from the lack of specific information and exposure point concentrations. Most of the exposure point concentrations were modeled, and therefore include uncertainty. Our characterization of stressor deployment involves estimates and uncertainty. Where site-specific information describing the location of deployment sites was lacking, our estimates may overestimate acute and chronic risks.

Intake parameters for each receptor were developed so receptors would receive the greatest dose realistically possible, given the training conditions at Fort Leonard Wood. We evaluated effects to receptors for different activities. Release of stressors may occur at times other than those when receptors are on the installation or performing certain activities, leading to overestimation of risk in this ERA.

9.2.5 Risk Characterization

The Risk Characterization step of any ERA involves uncertainties as it incorporates estimates and assumptions made in earlier assessment phases. The effect or risks were based on the ratio of intakes (calculated for each stressor and pathway) to toxicity values (assumed to be safe for the receptor). Risks for this ERA were based on Hazard Quotients (HQ) > 1 . An HQ > 1 indicates receptors are taking in more of the stressor than is considered safe. The HQ is considered a point estimate. HQs only evaluate risks from 1 exposure concentration at a time. Chemical stressors not yet released would result in more than a single concentration. The HQs in this ERA were based on maximum exposure concentrations used in intake equations from the stressor source for receptors at stationary locations (e.g. hibernacula). HQs based on variable exposure points, where receptors have many possible locations, were determined at varying distances from the stressor source. HQs based on the maximum predicted exposure concentrations only reflect the risks to receptors for that concentration. They may overestimate the actual risk.

The HQ does not assist in estimating the number of receptors that may be at risk. Nor does it describe the exact effect that will occur when unsafe exposures occur. It does provide a useful tool for risk managers. Information gained from the analyses, can help the installation manage fog oil releases from areas shown to affect receptors.

Section X
Studies of Fog Oil Conducted for the BRAC Action

Section X:

Studies of Fog Oil Conducted for the BRAC Action

10.1 BACKGROUND

Smoke training with fog oil is a major training activity performed by the Chemical School at Fort McClellan. The movement of the Chemical School to Fort Leonard Wood will require this training to be continued at Fort Leonard Wood. Because the BRAC action may affect the human environment, an Environmental Impact Statement (EIS) was prepared. The studies summarized in this section were conducted to provide additional information for impact analysis in the EIS, Biological Assessment (BA), and 2 Ecological Risk Assessments.

Fog oil is a mineral oil resulting from the distillation of petroleum. It is a complex petroleum product that is heated to vaporization to produce smoke for obscurant training. Predicted fog oil use at Fort Leonard Wood and chemical characterization of fog oil can be found in Section V of this ERA. A toxicity profile of fog oil is presented in Section VII.

New fog oil is similar to old fog oil, but undergoes important chemical treatments modify its composition. The precise composition of fog oil is not well characterized. Although the compounds in fog oil have been identified, little data exist describing the isomers of the components and their percent composition. Fog oil has been used by the military for years. Fog oil obscured aircraft carriers and personnel in World War II. The military determined certain components of (old) fog oil may be hazardous to humans and the environment. The

military now requires manufacturers to hydrotreat (new) fog oil. Hydrotreating removes the compounds in fog oil called aromatics. Many aromatics are known or suspected human carcinogens. Old fog oil refers to fog oil manufactured before 1986 that has not been hydrotreated. New fog oil is hydrotreated, and has been manufactured since 1986.

Fog oil has had several designations in its history which may lead to confusion. There are 2 types of fog oil, "old" fog oil and "new" fog oil. Fog oil also has letter designations used by the military for purchasing or issuing requests for production from manufacturers. Types A and B are "old" fog oil (also referred to as SGF 1) manufactured under specifications A and B before 1986. "New" fog oil, designated as type D, is also referred to as SGF 2 fog oil (Standard Grade Fuel 2). It is the primary material used by the military to produce smoke at Fort McClellan and other installations. Fog oil type D or E will be used at Fort Leonard Wood. Fog oil types C, D, and E are chemically and structurally the same compounds. The designations refer to differing specifications given to manufacturers. The military requires that manufacturers perform carcinogenicity or mutagenicity tests on fog oil type D and E.

The (1) fugacity or environmental fate and transport of fog oil smoke, and (2) the composition of fog oil smoke relative to parent fog oil was poorly understood. Most information that exists was generated in tests only involving old fog oil. Very few studies have addressed fog oil smoke and the effects for the smoke itself. Environmental fate studies have not been conducted on new fog oil. The following studies were performed to provide information regarding these 2 issues.

10.2 ENVIRONMENTAL FATE OF FOG OIL AT FORT McCLELLAN, ALABAMA. AUGUST, 1996. PREPARED BY 3D/INTERNATIONAL INC., ENVIRONMENTAL GROUP.

10.2.1 Introduction

This study assessed the environmental fate of fog oil in areas where fog oil smoke production had occurred for an extensive amount of time (over 10 years). We statistically evaluated the presence of fog oil and its constituents at 3 exposure sites and a reference site. Fog oil has been used in large quantities (greater than 100,000 gallons per year) for several years at Fort McClellan. We were unable to precisely quantify the quantity used in the 3

exposure sites. Both old and new fog oil have been used in these areas. Only new fog oil was deployed since 1986.

We analyzed fog oil smoke samples from the types of fog oil generators to be used at Fort Leonard Wood. A description of M56 and M157 generators is included in Section V of this ERA. Samples were evaluated to assess chemical transformations, reactions, and decomposition products of fog oil the generators may produce. Several toxicological studies indicate fog oil heated to 500°C on a metal manifold, does not change significantly from the parent fog oil. However, these studies are not conclusive because they do not aerosolize fog oil as do M56 or M157 generators.

10.2.2 Methods

Three exposure sites (Range 24A, Range 56, and Battle Drill Area) and 1 reference site (Choccolocca Creek) were selected for this study. All samples were collected by employing EPA methods or other standard techniques. Method numbers, standard practices, and laboratory analytical methods are specified in the report.

Soil, surface water, and sediments were sampled from each site. Nineteen soil samples were taken at 3 depths to determine if fog oil components migrate into the soil at detectable concentrations. Samples were taken at 50 m upwind from fog oil release points and at 50 m, 100 m, and 200 m downwind from the release points. Soil sample depths were 3 inches, 1 foot, and 3 feet deep. Surface water and sediment samples were collected at the same location. Ten surface water samples and 10 sediment samples were collected at Range 56, Battle Drill Area, and Choccolocca Creek reference site. Five samples were collected upstream from the fog oil release point at 50 m intervals and 5 samples were collected downstream at 50 m interval locations. The stream at Range 24A was intermittent and samples were taken at 3 locations in 2 different streams near the release area.

Vegetation, insects, fish, and bats were collected from each sample site and analyzed for fog oil components. Three bark and leaf samples were collected from each sample site. Bark and leaf samples at exposure sites were collected as near to the smoke release point as possible. Thirty-five insect samples were collected at each sample site. Insect samples were composited due to the large amount of sample required for analysis. Twelve insect samples

from each sample site were analyzed. Thirteen fish from Range 56, Battle Drill Area, and the Choccolocca Creek reference sites were collected and analyzed. No fish could be collected from the very small stream at Range 24A. Twenty bats were collected from the sample sites. Eight guano samples were taken from gray bats caught during mist-netting.

Additional vegetation and insect sampling was performed at each sample site. Sampling events were paired to reduce variability between sample times when bats and insects were sampled at reference and exposure sites. Insect and bat presence on any night is substantially influenced by weather conditions and other factors unrelated to the presence of contaminants. Insect samples and additional vegetation samples were analyzed to determine if the reference site and the exposure sites were similar in composition and richness.

Fog oil smoke samples were collected from M56 and M157 smoke generators. One background sample was taken before the generators were turned on. Several smoke samples were taken at the generator and at 10 m, 20 m, and 30 m from the generators.

10.2.3 Results and Discussion

Samples collected at Fort McClellan were analyzed for aromatic hydrocarbons, and quantified for quinoline, methyl quinoline, biphenyls, 6 isomers of naphthalene, hexadecane, fluorene, dimethylbiphenyl, methyl fluorene, phenanthrene, anthracene, methylanthracene, methylanthracene, dimethylphenanthrene, ethylanthracene, and hexchloroethane. Samples indicating aromatic compounds were present were further tested to identify the possible compound. Analysis was completed utilizing Gas Chromatography/Mass Spec. Detection (GC/MSD) and Gas Chromatography/Flame Ionization Detection (GC/FID).

Most samples collected at exposure sites were not statistically different from those collected at the reference site. Most of the reference site samples had higher concentrations of hydrocarbons when compared to similar samples from exposure sites.

Bat tissue from 2 exposure sites had slightly higher concentrations of certain hydrocarbons. Concentrations of 6 hydrocarbons in bat tissue were significantly (statistically) higher at Range 56 than concentrations at the reference site ($p < 0.10$). Concentrations of 6 hydrocarbons in bat tissue were significantly (statistically) higher at the Battle Drill Area than

concentrations at the reference site ($p < 0.01$). The concentrations of hydrocarbons in bat tissue samples are very small and near the detection limit for each compound. It is likely the 6 hydrocarbons in the samples are biological in origin, rather than from fog oil. No other concentrations of hydrocarbons were statistically different at exposure and reference sites. None of the hydrocarbons analyzed for this study were found in the fog oil samples or the fog oil smoke samples.

In another phase of this study, we compared fog oil smoke samples to parent fog oil. Based on the analysis for the smoke samples, no aromatic compounds were identified. Approximately 99.2% of the smoke was the same hydrocarbons identified in the fog oil sample. There was a slight shift in lower molecular weight alkanes in the fog oil sample compared to the smoke samples. It appears there is some volatilization of the lower molecular weight hydrocarbons in fog oil when it is aerosolized to form smoke. Presumably, the volatilization results in the formation of carbon dioxide. This is supported by the lack of non-common hydrocarbons in the fog oil and smoke samples.

10.3 EVALUATION OF HUMAN HEALTH RISKS ASSOCIATED WITH FOG OIL TRAINING AT FORT LEONARD WOOD, MISSOURI. PRELIMINARY RISK EVALUATION REPORT. SEPTEMBER 1996. PREPARED BY HARLAND BARTHOLOMEW & ASSOCIATES, INC.

10.3.1 Introduction

This study was conducted to determine potential health risks to soldiers from occupational exposure to fog oil smoke. Field generated smoke samples were analyzed to determine the chemical composition of fog oil smoke. Specific chemicals listed on the EPA's Target Analyte List (volatile and semi-volatile organic compounds) were carried through a screening risk assessment. This Preliminary Risk Evaluation (PRE) was based on EPA Region IX guidance to determine if a hazardous waste site is, or has the potential to, affect the human population in the area. Region IX guidance is also used to rank hazards at sites and determine which chemicals pose the greatest risk. A carcinogenic risk and noncarcinogenic hazard quotient were calculated for each chemical. Chemical concentrations measured in the samples were compared to EPA's Region IX screening level concentrations to see if the fog oil smoke posed potential risks. Intake parameters were based on occupational exposure for the calculations.

A thorough literature review was conducted to determine what information was currently available and what human health effects have been identified for new and old fog oil. The chemical composition of new fog oil is poorly documented.

10.3.2 Methods

Field testing was conducted at U.S. Army Aberdeen Proving Ground, Edgewood, Maryland. Two smoke clouds were tested, one from the M56 generator and the second from a M157 generator. Samples were taken at various distances from the generators (Table 22).

Samples were collected with Summa 6 liter canisters and XAD-2 tubes. Samples were analyzed for VOCs (volatile organic hydrocarbons), SVOCs (semi-volatile organic hydrocarbons), and THC (total hydrocarbons). The report describes laboratory analysis methods.

10.3.3 Results and Discussion

Many compounds were found in the fog oil samples. The specific identification and quantification was not complete, but the overall composition was determined to be less than 2.5% VOCs and SVOCs. Because of the formation of so many isomers and non-TAL compounds, the exact formulation and quantity of many of the compounds were not precisely ascertained in the analysis. The PRE groups compounds based on their structural similarity and toxicity.

TABLE 22. Sample locations and sample types taken at Aberdeen.

Test 1 - M56 Generator	Test 2 - M157 Generator
2 Reference (Background)	2 Reference (Background)
11 meters	< 1 meter
11 meters	< 1 meter
25 meters	11 meters
25 meters	11 meters
200 meters	100 meters
200 meters	100 meters
Liquid SGF - 2 Fog Oil	Liquid SGF - 2 Fog Oil
Field (Trip) Blank	Laboratory (Method) Blank

The majority of the VOCs and SVOCs in the smoke samples are also commonly found in diesel and gasoline combustion products. It is assumed the small concentrations found in the fog oil samples resulted from the generator fuel source rather than from the fog oil.

The PRE determined the distance from M56 and M157 generators where respiratory protection is needed. Respiratory protection is required where ACGIH (American Conference of Industrial Hygienist) TLV - TWA (Threshold Limit Values) (Time Weighted Average) occupational levels are exceeded.

Section XI
Summary of Relevant Studies Performed for Fort
McClellan

Section XI:

Summary of Relevant Studies Performed for Fort McClellan

We located several studies assessing smoke training and related activities at Fort McClellan, Alabama. Most of these reports were inconclusive, or did not provide data of import to the ERA.

11.1 DRAFT ENVIRONMENTAL IMPACT STATEMENT, ONGOING MISSION, FT MCCLELLAN, AL, MAY 1979.

This EIS assessed effects to the human environment of the ongoing mission at Fort McClellan. The document provided little information of direct pertinence to the ERA.

11.2 A STUDY OF THE ENDANGERED AND THREATENED PLANTS AND ANIMALS ON FORT MCCLELLAN MILITARY INSTALLATION AND PELHAM RANGE, CALHOUN COUNTY, AL, M.F. METTEE, JANUARY 1980.

The study documents plant and animal collections at Fort McClellan. The document provided little information of direct pertinence to the ERA.

11.3 REASSESSMENT OF FORT MCCLELLAN, ANNISTON, AL. REPORT NO. 110A, B.N. MCMASTER, M.D. YOUNG, S.A. DENAHAN, C.D. POLLMAN, AND J.D. MARSH. JANUARY 1984.

This report is a reassessment of the 1977 records search of Fort McClellan (FMC) to reevaluate potential contamination resulting from use, storage, and disposal of chemical,

biological, and radiological material (CBR). The reassessment was done without a site visit. Recommendations were made for land use of former training areas and the need to conduct sampling and analysis in certain of these areas.

The geohydrology of FMC is very complex due to the presence of many faults, springs, high relief, and numerous rock types. Pathways exist for migration of contaminants by either surface water or groundwater.

Training activities included the following agents: mustard (HD), nerve agent VX (VX), and Saran (GB). DS-2 and supertropical bleach (STB) were employed as decontaminants during training. Other agents were identified in the report by letters, but not identified by name: BG, SM, CG, BZ, CX, CK, QC, and AC.

The only toxic compounds likely to persist in subsurface soils at FMC are HD and bis(2-diisopropylaminoethyl) disulfide [(DES)₂]. (DES)₂ is the principle byproduct of decontamination of VX with DS-2.

The only toxic compounds likely to persist in groundwater at FMC are (DES)₂, divinyl sulfide (DVS), mustard sulfoxide (HO), and s-(diisopropylaminoethyl) methylphosphonothioate (DESMP). DVS forms from alkaline hydrolysis of HD with DS-2. HO forms from the oxidation of HD with STB. DESMP forms from the hydrolysis of VX.

No surface residuals are expected from normal training activities. Areas where HD and VX were used in training cannot be declared free of subsurface soil contamination. Larger spills (quantities above training amounts) may result in both surface and subsurface soil contamination as well as groundwater contamination.

The original assessment involved a site-by-site determination using the following information:

- 1) known & suspected information concerning agent use
- 2) decontamination procedures
- 3) available monitoring data
- 4) environmental degradation characteristics of agents and decontaminants
- 5) SOPs for use of agents during training exercises.

The reevaluation included additional data and determined the following limitations to the original assessment:

- 1) There has been no firm determination of precise locations of stations within identified Chemical School training areas.
- 2) There is no standardized method of certifying decontaminated or demilitarized chemical warfare areas or materials as being agent-free.
- 3) Long-term exposure effects of chemical warfare agents has not been sufficiently defined by the Surgeon General.
- 4) Decontamination pollution potential is unquantified and needs further investigation.

As a result the following assumptions were used in this reassessment to determine contamination potential:

- 1) Surface agent contamination below PPM range (analytical limits) does not present an acute exposure hazard for surface use.
- 2) SOPs for training and decontamination exercises were followed and were effective.
- 3) Sampling and analytical methods for agents are valid.
- 4) Agent use and associated decontaminants were limited to training exercise quantities unless storage, burning, or other disposal activities took place.

All sites are assumed to have potential subsurface contamination resulting from the potential persistence of isolated packets of live agent. Large spill procedures that involved burial of removed soil at a different location create potential contamination problems at the burial site for surface soils and subsurface soils.

Contamination Assessment - Non-problem areas, derived from McMaster et al. January 1984.

Training Site	Agents Used	Conclusions	Recommendation
T-4	BG, SM	Surface decontaminated	Cleared for surface use
T-5	HD, VX, GB	Surface decontaminated	Cleared for surface use
T-6	HD	Surface decontaminated	Cleared for surface use
T-31	HD, GB	Surface decontaminated	Cleared for surface use
Old Toxic Training	HD	Surface decontaminated	Cleared for surface use
D and I	HD, GB, CK, QC, CX, AC	Surface decontaminated	Cleared for surface use
Range I	Unknown, HD assumed	Surface decontaminated	Cleared for surface use
Range K	Unknown	Surface decontaminated	Cleared for surface use
HD spills	HD	Surface decontaminated	Cleared for surface use
AAD-Decon	Unknown	Surface decontaminated	Cleared for surface use
Old Waterhole	Unknown	Location & existence unconfirmed	Further investigation if actual site determined
Unidentified Range	Unknown	Location & existence unconfirmed	Further investigation if actual site determined
Radiological Facilities (Bldgs. 3192, 3182, 3180)	Co-60	Decontaminated or controlled	Cleared for controlled activity
Radiological Areas (Iron Mountain, Alpha Field, Bromine Field, Rideout Field)	Co-60, Th-204, Ra-226, Cs-137, Sr-90, U-233, U-238, Br-82	Surface & subsurface decontaminated	Cleared for use

o

Contamination Assessment - Toxic Agents - potential problem areas, derived from McMaster et al. January 1984.

Training Site	Agents Used	Conclusions	Recommendations
T-38	HD, VX, GB	Potential groundwater & subsurface soil contamination	Continued surface use, limited sampling & analysis by USATHAMA
T-24A	CG, BZ, GB, HD	Potential groundwater and subsurface soil contamination	Fence & post , limited sampling & analysis by USATHAMA
Range J	Unknown, HD assumed	Potential groundwater and subsurface soil contamination	Fence & post , limited sampling & analysis by USATHAMA
Range L	Unknown	Potential groundwater, sediment, & and subsurface soil contamination if leaking chemical munitions	Fence & post , determine presence of munitions by geophysical means, limited sampling & analysis by USATHAMA if leaking munitions found
Landfill	Toxic sludge, waste POL, decontaminated materials	Potential groundwater and subsurface soil contamination and migration by POL, solvents, & heavy metals	Expand existing monitoring program for existing & 2 past landfills, determine groundwater flow directions

11.4 HAZARDOUS WASTE CONSULTATION NO. 37-26-1649-88, FORT MCCLELLAN, ALABAMA. 8-12 DECEMBER 1986. UNITED STATES ARMY ENVIRONMENTAL HYGIENE AGENCY.

The purpose of this report was to identify all solid waste management units (SWMUs) on Fort McClellan and to assemble data to provide a decision making mechanism to determine whether action at any of the sites is necessary as required under RCRA Hazardous and Solid Waste Amendments of 1984.

11.5 AN ECOLOGICAL STUDY OF RANGE 24A AND THE BATTLE DRILL AREA AT FT. MCCLELLAN MILITARY RESERVATION, CALHOUN COUNTY, ALABAMA. March 1986. M.F. Mettee, S.C. Harris, P.E. O'Neal, and J. Nunley; Geologic Survey of Alabama

This study was designed to determine if smoke by-products, specifically hydrocarbons (HC) and zinc (Zn), were accumulating in the environment at Range 24A (R24A) and the Battle Drill Area (BDA) at Pelham Range. A secondary aspect of the study was to compare results with a study done 4 years earlier (AEHA study).

Sample collection for this study was done in June and October of 1984 and February of 1985. Tree and soil samples were collected only during June 1984. A suite of aquatic studies were performed during each of the monitoring periods. Aquatic studies conducted were: stream flow, water quality, sediment, periphyton, benthic macroinvertebrates, and bioassay.

Sixty-six soil samples were collected from R24A from an 87 m x 150 m grid that included 12 smoke generators. Of these, 64 were taken from along grid transects and 2 were collected from smoke generating pits. Thirty-two of these samples were analyzed; the remaining 34 were frozen for later analysis if it was deemed necessary. Three samples were collected from BDA from areas that were samples in the AEHA study. All 3 were analyzed.

The tree study determined species present, and density and growth of mature trees, saplings, and seedlings. Two plots were established at R24A; BDA was not sampled in the tree study. Plot 1 was sampled during the AEHA study, but Plot 2 of the AEHA study could not be relocated so a similar stand was used. A seedling sampling grid was established in each plot.

A control and experimental site were established at both R24A and BDA. Three of the sites were identical to sites from the AEHA study. The experimental site at R24A was moved from the AEHA site because the stream was dry at that point. Stream flow was measured as instantaneous discharge in CFS. Water samples were collected from midstream. A 60 ml aliquot was filtered and acidified (25% nitric acid) and analyzed by atomic absorption spectrophotometry for Zn. A 1.0 L aliquot was preserved with H₂SO₄ and analyzed by infrared spectrophotometry for total hydrocarbons. Sediment samples were sieved, pulverized, and thoroughly mixed prior to analysis. Periphyton was brushed from submerged surfaces into a glass jar and preserved with Lugol's iodine. A 10 ml aliquot was extracted from the well mixed sample and 300 individuals from the aliquot were identified. Benthic invertebrates were sampled qualitatively and quantitatively. Three Surber samples were collected from each site. The bioassay was performed on crayfish (2 species at each site) and fish (3 species at R24A and 7 species at BDA).

Comparisons with the AEHA study were generally inconclusive because of lack of knowledge of exact locations of the previous study. R24A samples had elevated HC concentration (mean = 28,500 mg/kg) within 10 m of smoke generating pits, but no elevated levels (mean = 53 mg/kg) beyond 10 m from the pits. Soil ZN concentrations were above the US average for soils (study mean = 64 mg/kg, US average = 44 mg/kg), but within the range (50 - 150 mg/kg) found in a 1964 study conducted north of Pelham range. High soil levels of Zn from the 1964 study were attributed to an old lead mine in the area. Soil data from BDA were inconsistent. There was no change in Zn concentrations between the AEHA study and the current study while HC concentrations were higher. This could not be explained as Zn levels should increase if HC levels increase.

No meaningful data were generated from the plant study. A recent wildfire was determined to have altered vegetation substantially.

Concentrations of Zn and HC in stream water from R24A showed no difference between control and experimental sites. At BDA, HC levels were elevated at the experimental site and Zn levels were constant. Acute Zn toxicity, determined to be:

$$[0.64 \times \ln(\text{hardness}) + 2.46] \mu\text{g/L}$$

in the AEHA study, was never observed in this study.

Number of taxa and diversity indices of periphyton sampled at Fort McClellan derived from Metee et al. 1986.

	EXPERIMENTAL		CONTROL	
	R24A	BDA	R24A	BDA
TAXA	36	53	50	66
DI	2.49-3.40	3.78-3.99	3.56-4.04	3.57-3.59

The above table shows the results of periphyton sampling in terms of number of taxa and diversity indices. The experimental site at R24A was considered worse than the other sites from all standpoints (no p-values were given for this conclusion). The authors felt something other than stream drying caused the decline in periphyton.

Benthic invertebrate results from R24A are summarized in Table 18. They are given as numbers of specimens, number of taxa, and diversity indices.

Fort McClellan benthic invertebrate sampling results at R24A, derived from Metee et al. 1986.

	EXPERIMENTAL	CONTROL
specimens/ taxa	205 / 43	1173 / 66
DI	2.88-3.06	3.38-3.98

The authors also indicated evidence of degradation for water quality by comparison with the AEHA study and attributed it to smoke training. At BDA the experimental site exceeded the control site and the authors concluded no evidence of impacts from smoke training. They attribute the difference between the 2 sites to the size of the stream sampled. The stream at BDA had more than 140 times the flow of the stream at R24A.

Bioassay results were inconclusive. At BDA, Zn tissue concentrations were equal across all samples, while HC concentrations were lower at the experimental site in June, equal in October, and higher at the experimental site in February. At R24A, crawfish had higher tissue levels of both Zn and HC at the experimental site in June, but insufficient numbers of specimens were caught in the other 2 sampling periods for comparison. *Notropis xaenocephalus* (Coosa shiner) had equal concentrations between the 2 sites. *Semotilus*

atromaculatus (creek chub) higher concentrations of both at the control site. *Micropterus coosae* (redeye bass) had elevated tissue concentrations of HC in June, but equal concentrations in October. There was no difference in Zn concentrations in this species. The authors concluded that there was no evidence that either Zn or HC were concentrating in the food chain at either site.

The authors attributed most of the detrimental effects to smoke training. However, they also acknowledge the existence of other potential factors were present that could have adversely affected water quality between R24 control and experimental sites. One was an abandoned, uncontained mustard agent training and disposal area 50 m from the stream. The other was a bermed storage area for drums of fog oil that lacked a water/oil separator. They recommend further study.

Section XII
Literature Cited

Section XII:

Literature Cited

- 3D/Environmental. 1996a. Environmental Fate of Fog Oil at Fort McClellan. Unpublished report. Cincinnati, Ohio.
- 3D/Environmental. 1996b. Biological Assessment of the Master Plan and Ongoing Mission, U.S. Army Engineer Center and Fort Leonard Wood. Cincinnati, Ohio.
- Aldrich, J.W. and F.C. James. 1991. Ecogeographic variation in the American robin (*Turdus migratorius*). Auk 108: 230-249.
- Ballou, J.E. 1981. Chemical characterization and toxicological evaluation of airborne mixtures. Final Summary Report, AD-A102678, U.S. Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, MD.
- Basum, H.T., and G.W. Taylor. 1986. A literature survey and data base assessment: microbial fate of diesel fuel and fog oil. U.S. Army medical bioengineering research and development laboratory. Technical Report 8408. Fort Detrick, MD. 41 pp.
- Behler, J.H. and F.W. King. 1979. The Audubon Society Field Guide to North American Reptiles and Amphibians. New York: Alfred A. Knopf, Inc.

- Bent, A.C. 1932. Life histories of North American gallinaceous birds. Washington, DC: U.S. Government Printing Office; Smithsonian Inst. U.S. Nat. Mus., Bull. 162.
- Bent, A.C. 1964. Life histories of North American Thrushes, Kinglets, and their Allies. Dover Publications, Inc. New York.
- Borchelt, P.L. and L. Duncan. 1974. Dustbathing and feather lipid in bobwhite (*Colinus virginianus*). Condor 76: 471-472.
- Bramachari, W. D. 1958. Toxicity of white oils. Current Science. 27(11):440-441.
- Brennan, L.A. 1993. Fire ants and northern bobwhite: a real problem or a red herring? Wildlife Soc. Bull. 21: 351-355.
- Brown, W.S. and W.S. Parker. 1982. Niche dimensions and resource partitioning in a great basin desert snake community. U.S. Fish Wildl. Serv. Wildl. Rep. 13: 59-81.
- Brown, W.S. and W.S. Parker. 1984. Growth, reproduction and demography of the racer, *Coluber constrictor mormon*, in northern Utah. In: Seigel, R.A., L.E. Hunt, J.L. Knoght, et al., eds. Vertebrate ecology and systematics. Lawrence, KS: Museum of Natural History, The University of Kansas; pp. 13-40.
- Brownie, C., D.R. Anderson, and K.P. Burnham. 1985. Statistical inference from band recovery data - a handbook. Washington, DC: U.S. Fish Wildl. Serv., Resour. Publ. 156.
- Calabrese, E.J., and L.A. Baldwin. 1993. Performing ecological risk assessments. Lewis Publishers, Chelsea, Michigan, 257pp.
- California Department of Toxic Substances Control. 1994. Guidance for ecological risk assessment at hazardous waste sites and permitted facilities, Part A. State of California Environmental Protection Agency, 33 pp.

- C.M. Couillard and F.A. Leighton. 1990. The toxicopathology of Prudhoe Bay crude oil in chicken embryos. *Fundamental and Applied Toxicology*, 14: 30-39.
- Conant, R. 1975. *A Field Guide to Reptiles and Amphibians*. Houghton Mifflin Co., Boston, xviii+ 429 pp.
- Conant, R. and J.T. Collins. 1991. *A Field Guide to Reptiles and Amphibians*. Boston, MA: Houghton Mifflin Co.
- DeGraaf, R.M. and D.D. Rudis. 1983. *Green frog. Amphibians and reptiles of New England*. Amherst, MA: University of Massachusetts Press.
- Drda, W.J. 1968. A study of snakes wintering in a small cave. *J. of Herpetol.*, 1:64-70.
- Driver, C.J., M.W. Ligothke, P. Van Voris, et al. 1991. Routes of uptake and their relative contribution to the toxicologic response of northern bobwhite (*Colinus virginianus*) to an organophosphate pesticide. *Environ. Toxicol. Chem.* 10:21-33.
- Driver, C.J., M.W. Ligothke, J.L. Downs, B.L. Tiller, E.B. Moore, Jr., and D.A. Cataldo. 1992. Environmental and health effects review for obscurant fog oil. U. S. Army Chemical Research, Development, and Engineering Center. Aberdeen Proving Ground, MD. 63 pp.
- Driver, C.J., M.W. Ligothke, J.L. Downs, B.L. Tiller, T.M. Poston, E.B. Moore, Jr., and D.A. Cataldo. 1993. Environmental and health effects review for obscurant fog oil. Pacific Northwest Laboratory, ERDEC-CR-071, Richland, Washington.
- EPA. 1989. Risk Assessment Guidance for Superfund, Vol. I. Human Health Evaluation Manual (Part A). Office of Emergency and Remedial Response, Washington, DC, 540/1-89-002.
- EPA. 1993. Wildlife Exposure Handbook, Vol I. Office of Research and Development, Washington, DC, 600/R-93/187a.

- EPA. 1994. Ecological risk assessment guidance for Superfund: Process for designing and conducting risk assessments. Review Draft. Environmental Response Team, Edison, New Jersey.
- EPA. 1996. Proposed guidelines for ecological risk assessment. Risk Assessment Forum. Washington, DC, EPA/630/R-95/002B.
- Famer, D.S. 1949. Age groups and longevity in the American robin: Comments, further discussion, and certain revisions. *Wilson Bull.* 61:68-81.
- Fitch, H.S. 1963. Natural history of the racer *Coluber constrictor*. Vol. 15. Lawrence, KS: University of Kansas Publications, Museum of Natural History; pp. 351-468.
- Fitch, H.S. 1963. Natural history of the racer *Coluber constrictor*. V. 15. Lawrence, KS: University of Kansas Publications, Museum of Natural History.
- Fitch, H.S. 1982. Resources of a snake community in prairie woodland habitat of northeastern Kansas. In: Scott, N.J., Jr., ed. *Herpetological communities*. U.S. Fish Wildl. Serv. Wildl. Res. Rep. 13; pp. 83-98.
- Gerhart, J., N. Hatoum, C. Halder, T. Warne, and S. Schmitt. 1988. Tumor initiation and promotion effects of petroleum streams in mouse skin. *Fundamentals of Applied Toxicology* 11(1): 76-90.
- Gochfeld, M. and J. Burger. 1984. Age differences in foraging behavior of the American robin (*Turdus migratorius*). *Behavior* 88:227-239.
- Grose, E.C., M.J. Selgrade, D.W. Davies, and A.G. Stead. 1986. Inhalation toxicology of fog oil smoke. U.S. Army Medical Research and Development Command, Frederick, Maryland. AD-A176106.
- Guthery, F.S. 1988. Line transect sampling of bobwhite density on rangeland: Evaluations and recommendations. *Wildl. Soc. Bull.* 16:193-203.

- Harland Bartholomew and Associates (HBA). 1996. Preliminary Draft Environmental Impact Statement: Relocation of U.S. Army Chemical School and U.S. Army Military Police School to Fort Leonard Wood, Missouri.
- Hamilton, W.J. 1935. Notes on nesting robins. *Wilson Bull.*, vol. 47:109-111.
- Hamilton, W.J., Jr. 1948. The food and feeding behavior of the green frog, *Rana clamitans* (Latreille), in New York state. *Copeia* 19:203-207.
- Hamilton, M. 1957. Weights of wild bobwhites in central Missouri. *Bird Banding* 28:222-228.
- Handley, C.O. 1931. The food and feeding habits of bobwhites. In: Stoddard, H.L. (ed). *The Bobwhite Quail: Its Habits, Preservation and Increase*. Charles Scribner's Sons, New York.
- Henny, C.J. 1972. An analysis of the population dynamics of selected avian species with special reference to changes during the modern pesticide era. Washington, DC: Bur. Sport. Fish. Wildl., Wildl. Res. Rep. 1.
- Hirth, D.H., A.E. Hester, and F. Greeley. 1969. Dispersal and flocking of marked young robins (*Turdus m. migratorius*) after fledging. *Bird-Banding* 40:208-215.
- Howell, J.C. 1940. Spring roosts of the robin. *Wilson Bull.* 52:19-23.
- Howell, J.C. 1942. Notes on the nesting habits of the American robin (*Turdus migratorius* L.). *American Midland Naturalist* 28:529-603.
- Hurst, G.A. 1972. Insects and bobwhite quail brood habitat management. *Proc. Natl. Bobwhite Quail Symp.* 1:65-82.
- James, F.C. and H.H. Shugart. 1974. The phenology of the nesting season of the American robin (*Turdus migratorius*) in the United States. *Condor* 76:159-168.
- Jenssen, T.A. and W.D. Klimstra. 1966. Food habits of the green frog, *Rana clamitans*, in southern Illinois. *Amer. Midl. Nat.* 76:169-182.

- Johnson, T. R. 1987. The Amphibians and Reptiles of Missouri. Missouri Department of Conservation, Jefferson City, Missouri. 368 pp.
- Johnsgard, P.A. 1988. The Quails, Partridges, and Francolins of the World. Oxford University Press, Oxford, United Kingdom.
- Judd, S. 1905. The bobwhite and other quails of the United States and their economic relations. U.S. Biol. Survey Bull. 21:1-66.
- Karasov, W.H. and D.J. Levey. 1990. Digestive system trade-offs and adaptations of frugivorous passerine birds. Physiol. Zool. 63:1248-1270.
- Klimstra, W.D. 1959. Foods of the racer, *Coluber constrictor*, in southern Illinois. Copeia 1959:210-214.
- Klimstra, W.D. and W.O. Stieglitz. 1957. Notes on reproductive activities of robins in Iowa and Illinois. Wilson Bull. 69:333-337.
- Koerth, N.E. and F.S. Guthery. 1987. Body fat levels of northern bobwhites in south Texas. J. Wildl. Manage. 51:194-197.
- Koerth, N.E. and F.S. Guthery. 1990. Water requirements of captive northern bobwhites under subtropical seasons. J. Wildl. Manage. 54:667-672.
- Koerth, N.E. and F.S. Guthery. 1991. Water restriction effects on northern bobwhite reproduction. J. Wildl. Manage. 55:132-137.
- Knupp, D.M., R.B. Owen, and J.B. Dimond. 1977. Reproductive biology of American robins in northern Maine. Auk 94:80-85.
- Lehmann, V.W. 1984. Bobwhites in the Rio Grande plain of Texas. Texas A&M University Press, College Station.
- Levey, D.J. and W.H. Karasov. 1989. Digestive responses of temperate birds switched to fruit or insect diets. Auk 106:675-686.

- Levey, D.J. and W.H. Karasov. 1992. Digestive modulation in a seasonal frugivore: The American robin *Turdus migratorius*. *Am. J. Physiol.* 262:G711-G718.
- Lewis, G.R. 1992. Sax' dangerous properties of industrial materials. Volumes I, II, and III. 8th Edition. Van Nostrand Reinhold, New York. 3553 pp.
- Liss-Suter, D. and J.E. Villaume. 1978. A literature review-problem definition studies on selected toxic chemicals, Volume 8 of 8, Environmental aspects of diesel fuels and fog oils SGF No. 1 and SGF No. 2 and smoke screens generated from them. Final Report, DAMD-17-77-C-7020, AD-A056018, The Franklin Institute Research Laboratories, Philadelphia, PA.
- Liss-Suter, D., R. Mason, and P.N. Craig. 1978. A literature review-problem definition studies on selected toxic chemicals, Volume 1 of 8, Occupational health and safety aspects of diesel fuels and fog oils SGF No. 1 and SGF No. 2 and smoke screens generated from them. Final Report, DAMD-17-77-C-7020, AD-A055903, The Franklin Institute Research Laboratories, Philadelphia, PA.
- Lushbaugh, C.C, J.W. Green, Jr., and C.E. Redmann. 1950. Effects of prolonged inhalation of oil fogs on experimental animals. *Archives of Industrial Hygiene and Occupational Medicine*, 1:237-247.
- Malmborg, P.K. and M.F. Willson. 1988. Foraging ecology of avian frugivores and some consequences for seed dispersal in an Illinois woodlot. *Condor* 90:173-186.
- Martin, A.C., H.S. Zim, and A.L. Nelson. 1951. *American Wildlife and Plants*. McGraw-Hill Book Company, Inc., New York.
- Martof, B.S. 1953a. Territoriality in the green frog, *Rana clamitans*. *Ecology* 34:165-174.
- Martof, B.S. 1953b. Home range and movements of the green frog, *Rana clamitans*. *Ecology* 34:529-543.
- Martof, B.S. 1956a. Factors influencing size and composition of populations of *Rana clamitans*. *Am. Midl. Nat.* 56:224-245.

- Martof, B.S. 1956b. Growth and development of the green frog, *Rana clamitans*, under natural conditions. Am. Midl. Nat. 55:101-117.
- McAlpine, D.F. and T.G. Dilworth. 1989. Microhabitat and prey size among three species of *Rana* (Anura: Ranidae) sympatric in eastern Canada. Can. J. Zool. 67:2241-2252.
- McRae, W.A. and R.W. Dimmick. 1982. Body fat and blood-serum values of breeding wild bobwhites. J. Wildl. Manage. 46:268-271.
- Mele, J.A. 1980. The role of lipids in storage and utilization of energy for reproduction and maintenance in the green frog, *Rana clamitans*. Ph.D. dissertation. Rutgers University, New Brunswick, New Jersey.
- Morrison, D.W. and D.F. Caccamise. 1990. Comparison of roost use by three species of communal roostmates. Condor 92:405-412.
- Oser, B.L., M. Oser, S. Carson, and S. Sternberg. 1965. Toxicologic studies of petrolatum in mice and rats. Toxicol. Appl. Pharmacol., 7:382-401.
- Palmer, W.G. 1990. Exposure Standard for Fog Oil. U.S. Army Biomedical Research and Development Laboratory; Frederick, MD.
- Parker, W.S. and W.S. Brown. 1973. Species composition and population changes in 2 complexes of snake hibernacula in northern Utah. Herpetologica 29:319-326.
- Paszkowski, C.A. 1982. Vegetation, ground, and frugivorous foraging of the American robin *Turdus migratorius*. Auk 99:701-709.
- Pitts, T.D. 1984. Description of American robin territories in northwest Tennessee. Migrant 55:1-6.
- Pough, F.H. and S. Kamel. 1984. Post-metamorphic physiological change in relation to anuran life histories. Oecologia 65:138-144.

- Prasad, N.L. and F.S. Guthery. 1986. Drinking by northern bobwhites in Texas. *Wilson Bull.* 98:485-486.
- Robbins, M.B. and D.A. Easterla. 1992. *Birds of Missouri: Their Distribution and Abundance.* University of Missouri Press, Columbia, Missouri.
- Roseberry, J.L. and W.D. Klimstra. 1971. Annual weight cycles in male and female bobwhite quail. *Auk* 88:116-123.
- Roseberry, J.L. and W.D. Klimstra. 1984. *Population Ecology of the Bobwhite.* Southern Illinois University Press, Carbondale, Illinois.
- Roseberry, J.L., B.G. Peterjogn, and W.D. Klimstra. 1979. Dynamics of an unexploited bobwhite population in deteriorating habitat. *J. Wildl. Manage.* 43:306-315.
- Rosene, W. 1969. *The bobwhite quail, its life and management.* Rutgers Press, New Brunswick, New Jersey.
- Ryan, R.A. 1953. Growth rates of some ranids under natural conditions. *Copeia* 1953:73-80.
- Schroeder, R.L. 1985. Habitat suitability models index: northern bobwhite. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(10.104).
- Selgrade, M.K., G.E. Hatch, E.C. Grose, J.W. Illing, A.G. Stead, F.J. Miller, J.A. Graham, M.A. Stevens, and J.F. Hardisty. 1987. Pulmonary effects due to subchronic exposure to oil fog. *Journal of Toxicological Environmental Health.* 21:173-185.
- Selgrade, M.K., G.E. Hatch, E.C. Grose, J.W. Illing, A.G. Stead, F.J. Miller, J.A. Graham. 1990. Pulmonary effects due to subchronic exposure to oil fog. *Toxicological and Industrial Health.* 6:123-143.
- Sexton, O.J. and S.R. Hunt. 1980. Temperature relationships and movements of snakes (*Elaphe obsoleta*, *Coluber constrictor*) in a cave hibernaculum. *Herpetologica*, 36:20-26.

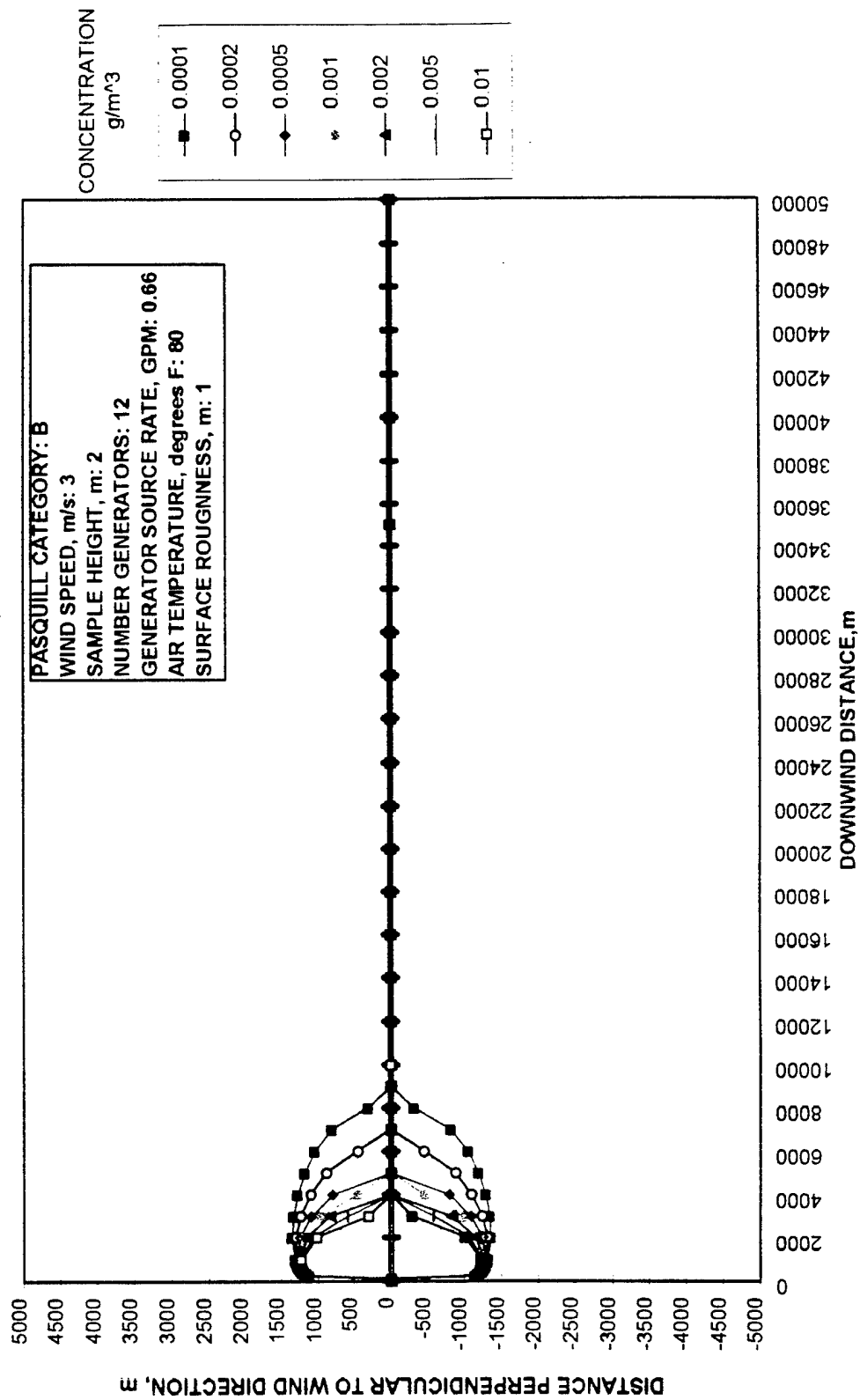
- Shinn, J.H., L. Sharmer, M. Novo, and L.F. Katz. 1987. Smokes and obscurants: A guidebook of environmental assessment. Vol I. Method of assessment and appended data. U. S. Army Research and Development Command, Fort Detrick, MD. 220 pp.
- Smith, G.F., F.I. Kellogg, G.L. Foster, 1982. A 10-year study of bobwhite quail movement patterns. *Proc. Natl. Bobwhite Quail Symp.* 2:35-44.
- Smith, H.M. 1956. Handbook of amphibians and reptiles of Kansas. Univ. of Kansas Mus. Nat. Hist. Misc. Publ. 9.
- Smith, L.H., M.L. Daugherty, and J.G. Pruett. 1987. The toxicity of diesel fuels and JP-8 aviation fuels in mammals and environmental species. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Smith, P.W. 1961. The amphibians and reptiles of Illinois. *Natural Hist. Surv. Bull.* 28.
- Speirs, J.M. 1953. Winter distribution of robins east of the Rocky Mountains. *Wilson Bull.* 65:175-183.
- Stewart, M.M. and P. Sandison. 1973. Comparative food habits of sympatric mink frogs, bullfrogs, and green frogs. *J. Herpetol.* 6:241-244.
- Stoddard, H.L. 1931. The Bobwhite Quail: Its Habits, Preservation and Increase. Charles Scribner's Sons, New York.
- Sternburg, J.E. J. Hays, S.S. Sanborn, L. McFarland, H. Loring, and B. Sietman. 1996. Threatened and endangered faunal and sensitive habitat survey of Fort Leonard Wood Military Reservation, Pulaski County, Missouri. Final Report of U.S. Department of Defense Contract M67004091-D-0010. Missouri Department of Conservation. Jefferson City, MO.
- Suter, G., L. Barnhouse, S. Bartell, T. Mill, D. Mackay, and S. Patterson. 1993. Ecological Risk Assessment. Lewis Publishers, Boca Raton, FL.

- Turner, F.B. 1977. The dynamics of populations of squamates, crocodilians, and rhynchocephalians. Pp. 157-264 In: Gans, C. and D.W. Tinkle eds. Biology of the reptilia: Vol. 7. Academic Press, New York.
- Urban, D. 1972. Aspects of bobwhite quail mobility during spring through fall months. Proc. Natl. Bobwhite Quail Symp. 1:194-199.
- Wagner, W.D., P. Wright, and H. Stokinger. 1964. Inhalation toxicology of oil mists, chronic effects of white mineral oil. American Industrial Hygiene Journal 25: 158-168.
- Warren-Hicks, W., B.R. Parkhurst, and S.S. Baker, Jr. 1989. Ecological Assessment of Hazardous Waste Sites: A Field and Laboratory Reference Document. Corvallis Environmental Research Laboratory, Oregon. 600/3-89/013.
- Weatherhead, P.J. and S.B. McRae. 1990. Brood care in American robins: Implications for mixed reproductive strategies by females. Anim. Behav. 39:1179-1188.
- Wells, K.D. 1976. Multiple egg clutches in the green frog (*Rana clamitans*). Herpetologica 32:85-87.
- Wells, K.D. 1977. Territoriality and male mating success in the green frog (*Rana clamitans*). Ecology 58:750-762.
- Wells, K.D. 1978. Territoriality in the green frog (*Rana clamitans*): vocalizations and agonistic behavior. Anim. Behav. 26:1051-1063.
- Wentzel, R.S., T.W. LaPoint, M. Simini, R.T. Checkai, D. Ludwig, L. Brewer. 1994. Procedural Guidelines for Ecological Risk Assessments at U.S. Army sites, Vol. I. Aberdeen Proving Ground. ERDEC - TR-221.
- Wheelwright, N.T. 1986. The diet of American robins: an analysis of U.S. Biological Survey records. Auk 103:710-725.
- Wheelwright, N.T. 1988. Seasonal changes in food preferences of American robins in captivity. Auk 105:374-378.

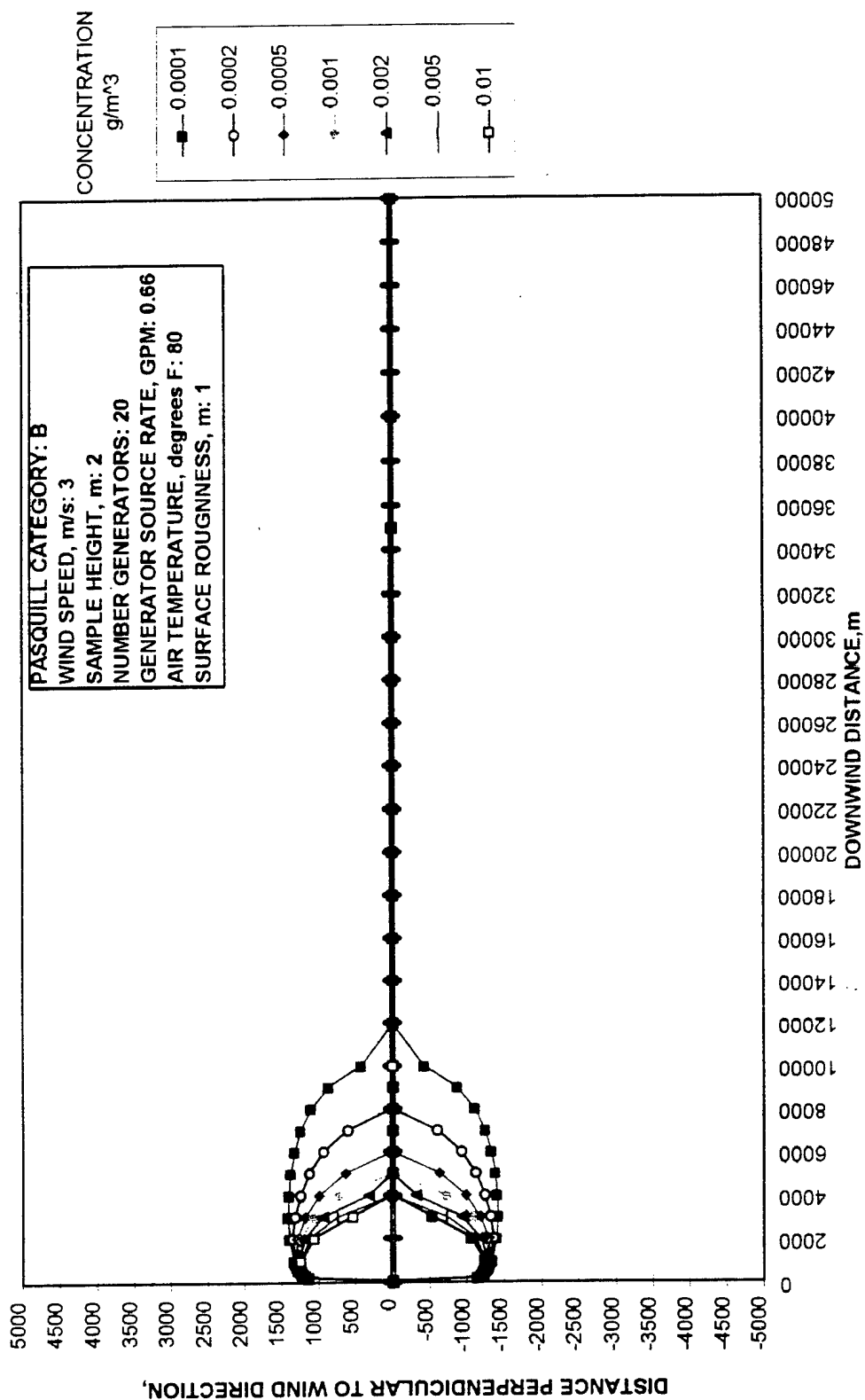
- Wright, A.H. and A.A. Wright. 1949. Handbook of frogs and toads of the U. S. and Canada. Comstock Pub. Assoc., Cornell Univ. Press, Ithaca, New York, vi + 286 pp.
- Yanders, A.E., E.W. Novak, W.R. Lower. 1985. Mutagenic testing of obscurant smokes. Environ. Mutagen., 7:60.
- Yoho, N.S. and R.W. Dimmick. 1972. Habitat utilization by bobwhite quail during winter. Proc. Nat. Bobwhite Quail Symp. 1:90-99.
- Young, H. 1951. Territorial behavior of the eastern robin. Proc. Linnean Soc. N.Y. 58-62:1-37.
- Young, H. 1955. Breeding behavior and nesting of the eastern robin. Am. Midl. Nat. 53:329-352.
- Young, J., D. Smart, J. Allen, D. Parmer, A. Rosencrance, E. Brueggeman, and F. Broski. 1989. Field exposure of chemical school students and cadre to fog oil and hexachloroethane (HC) smokes. Technical Report 8908. U.S. Army Biomedical Research and Development Laboratory, Fort Detrick, MD.

Appendix I
Fog Oil Concentration and Deposition Isopleths
for Categories B, C, and D

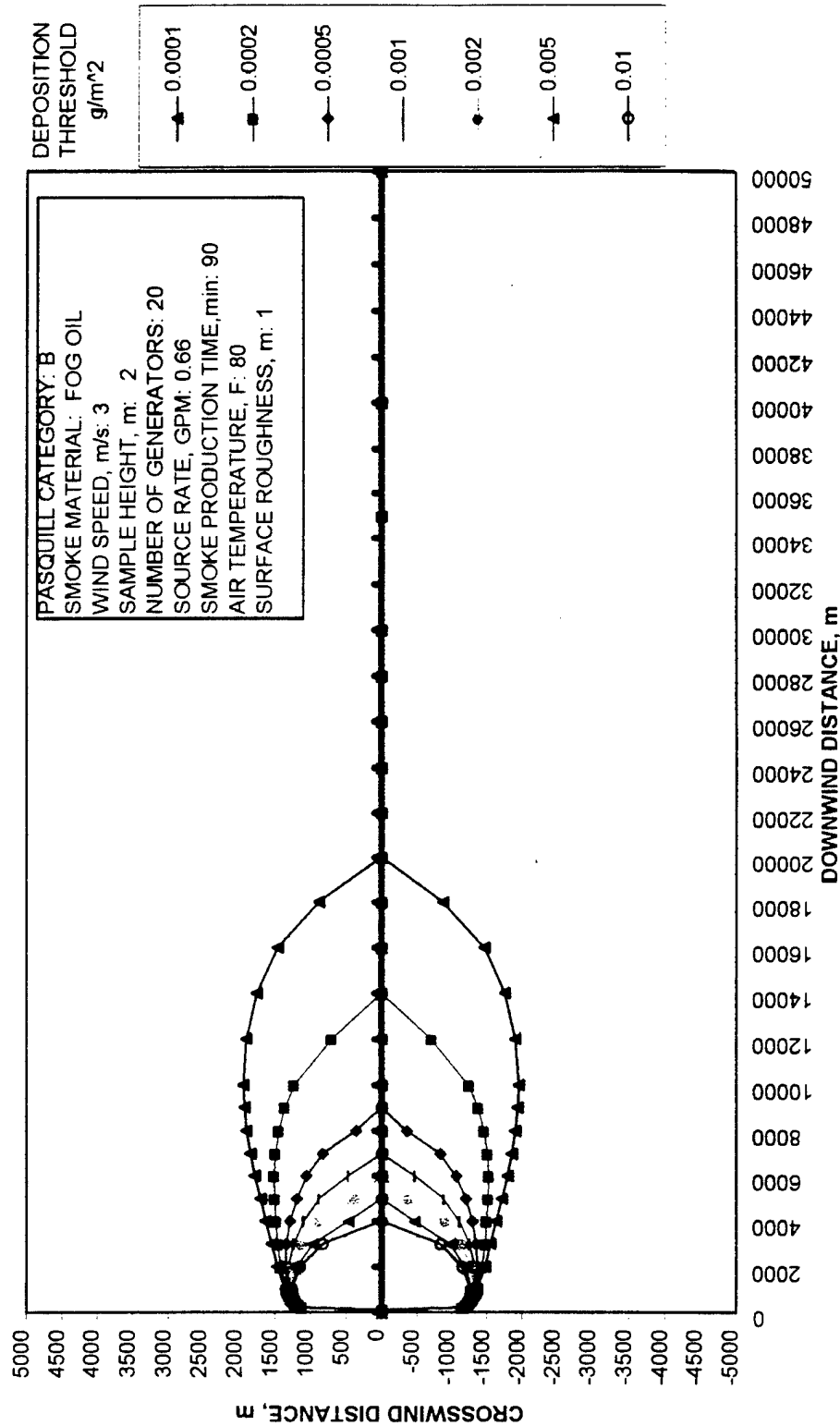
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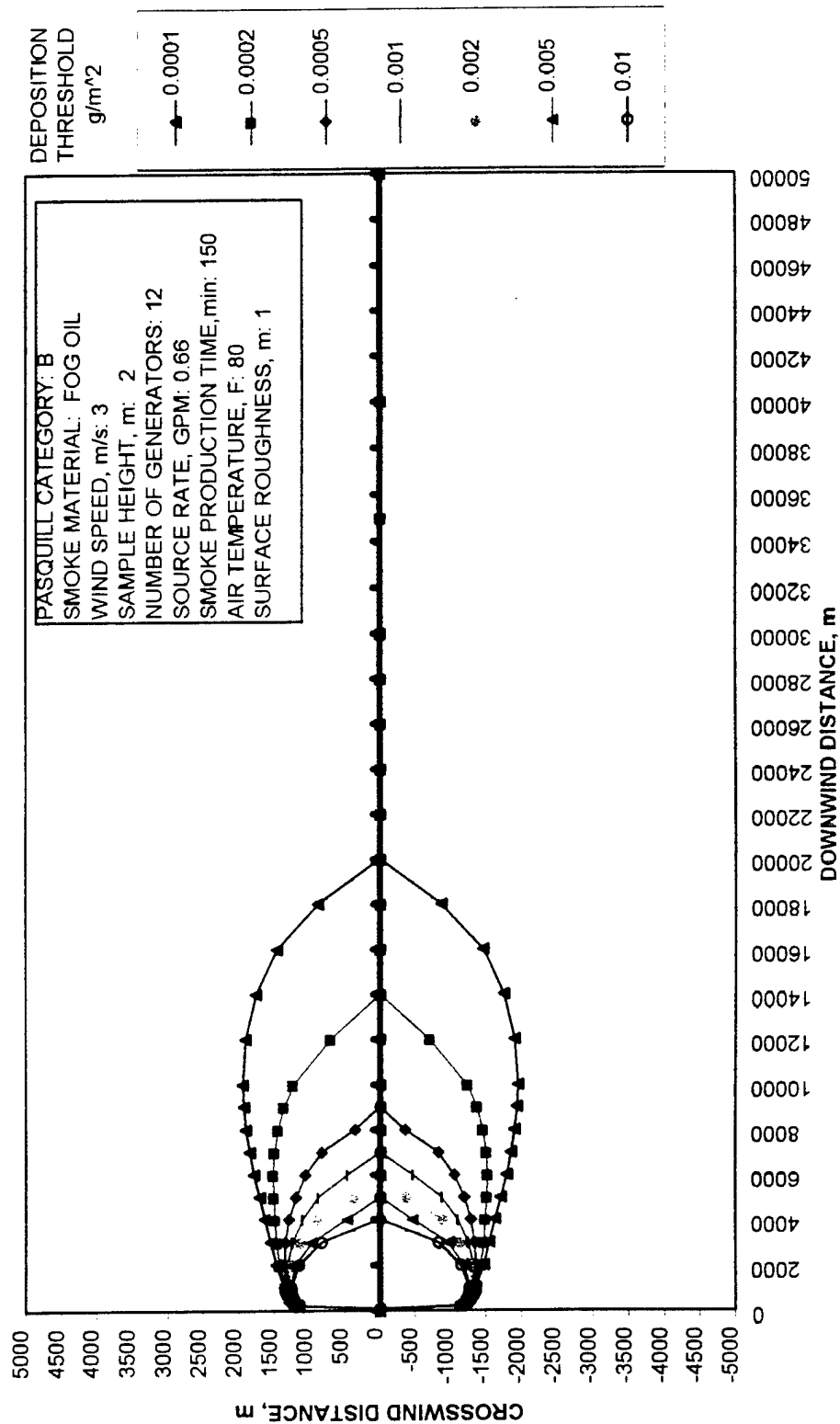
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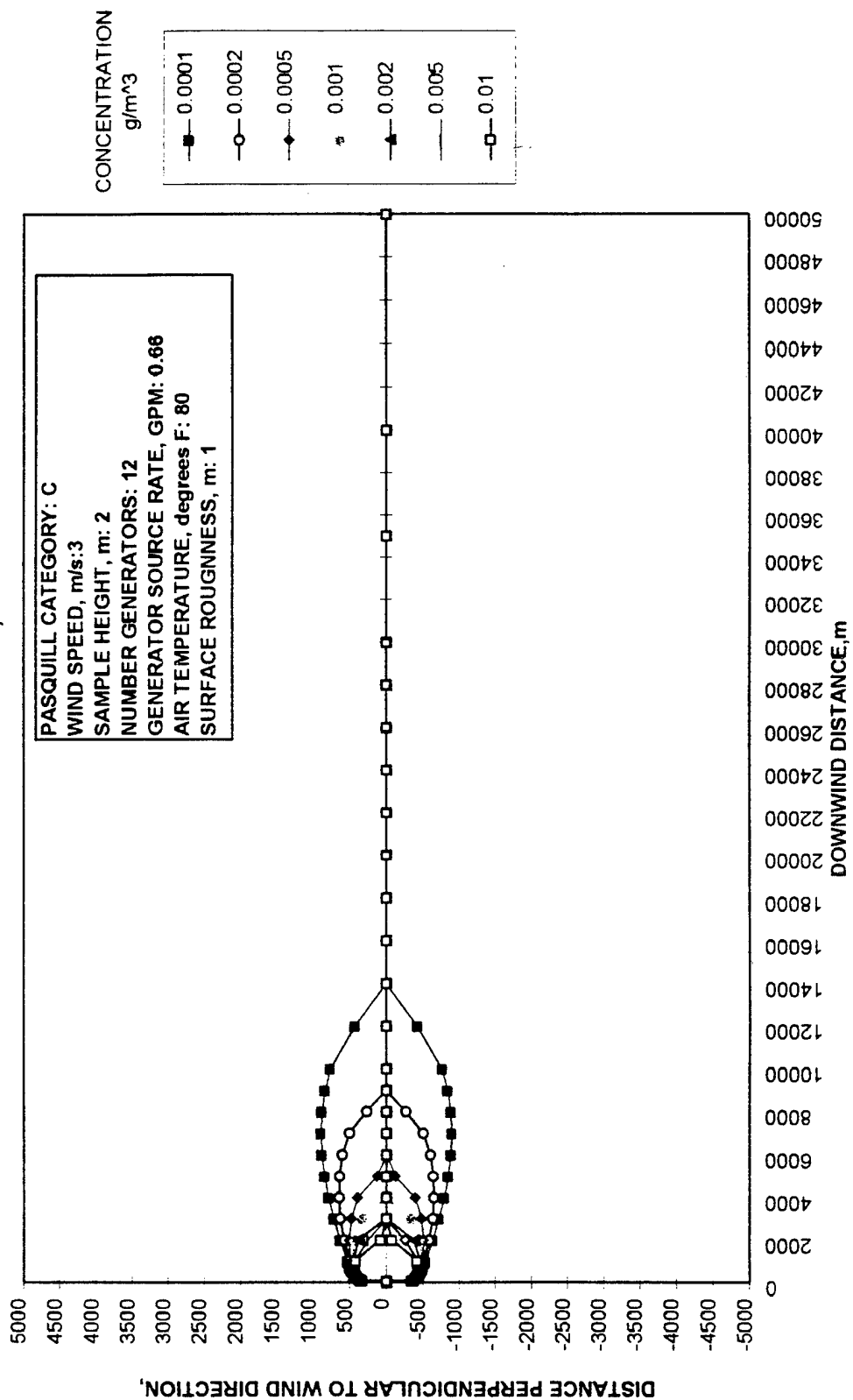
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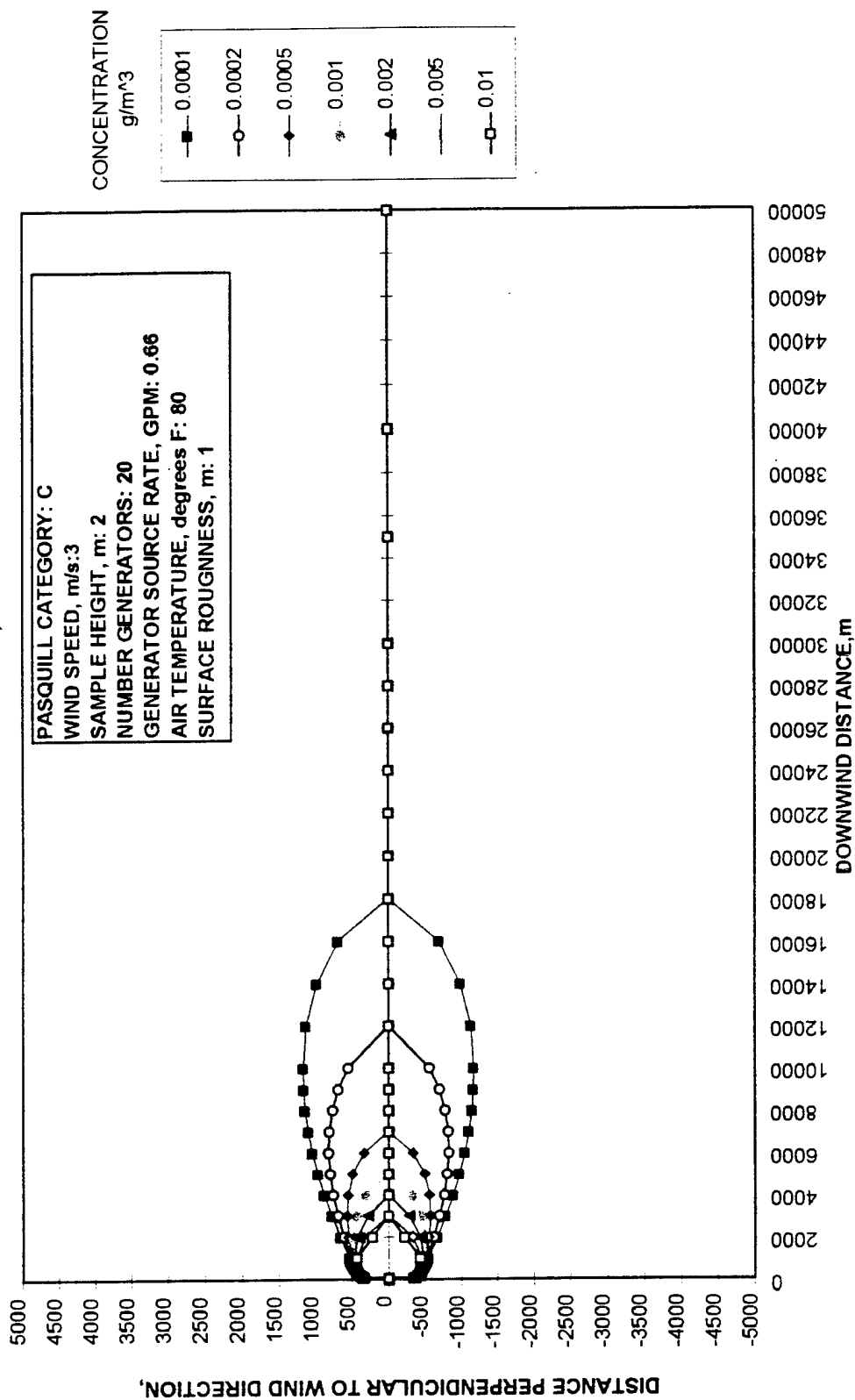
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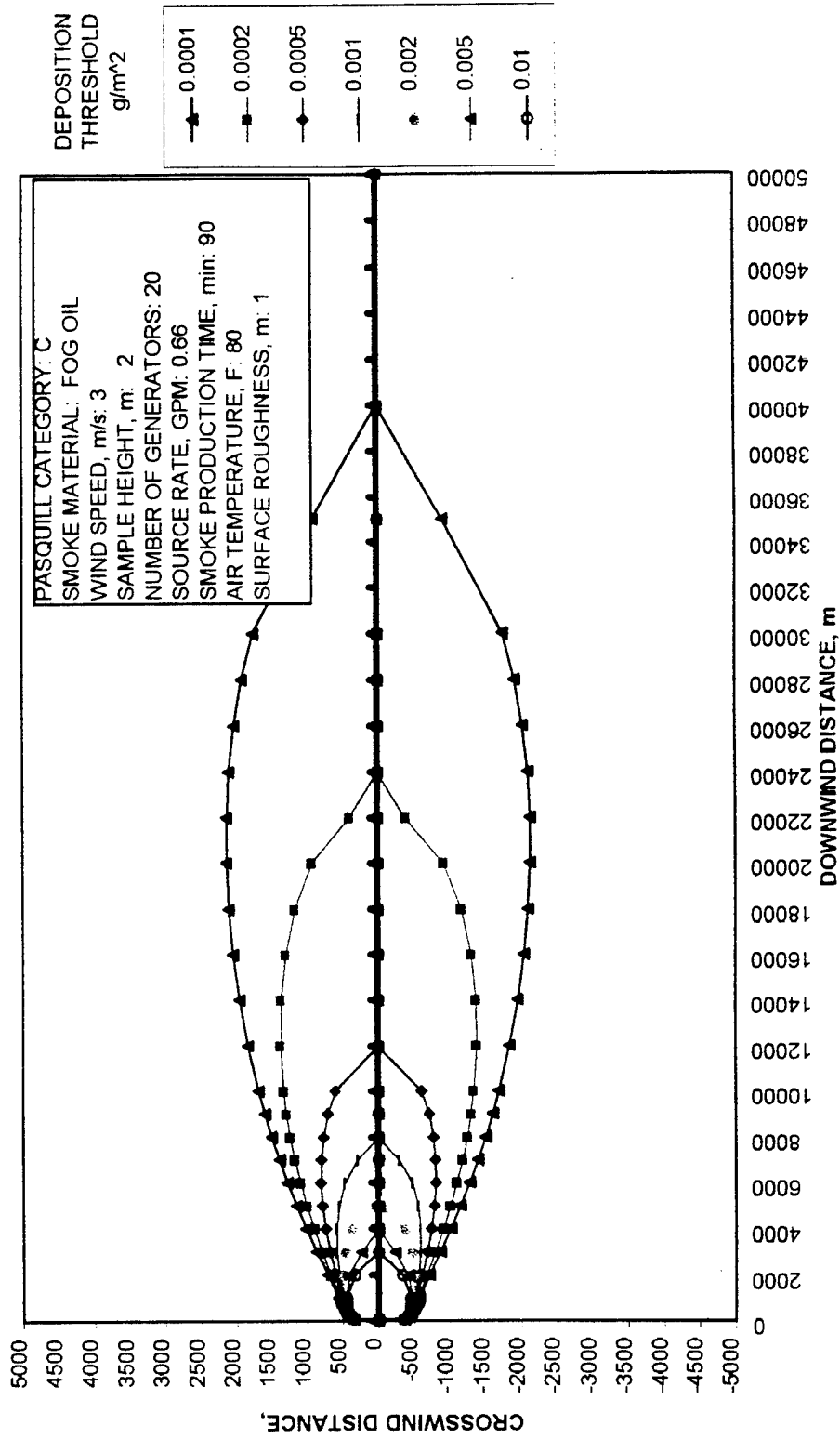
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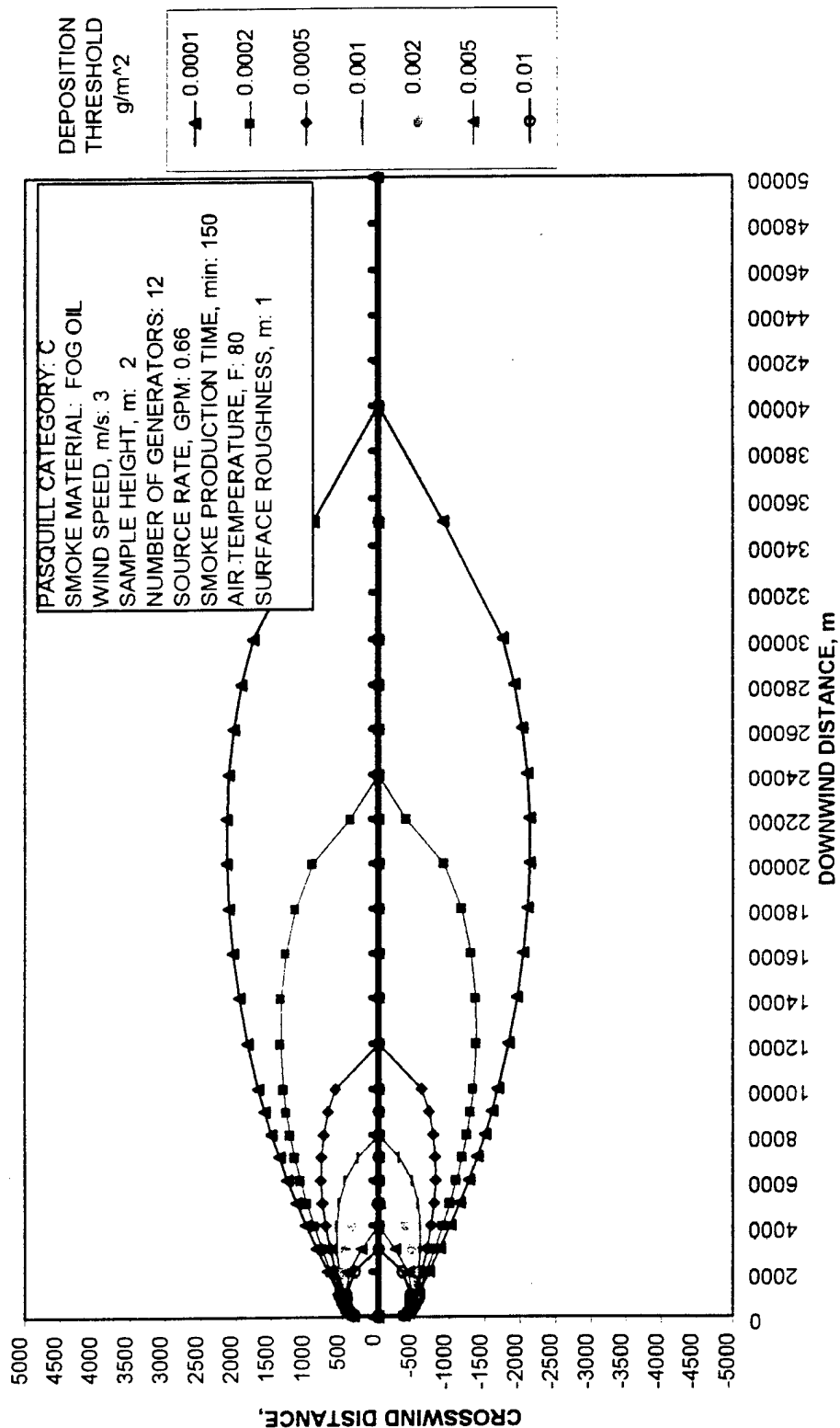
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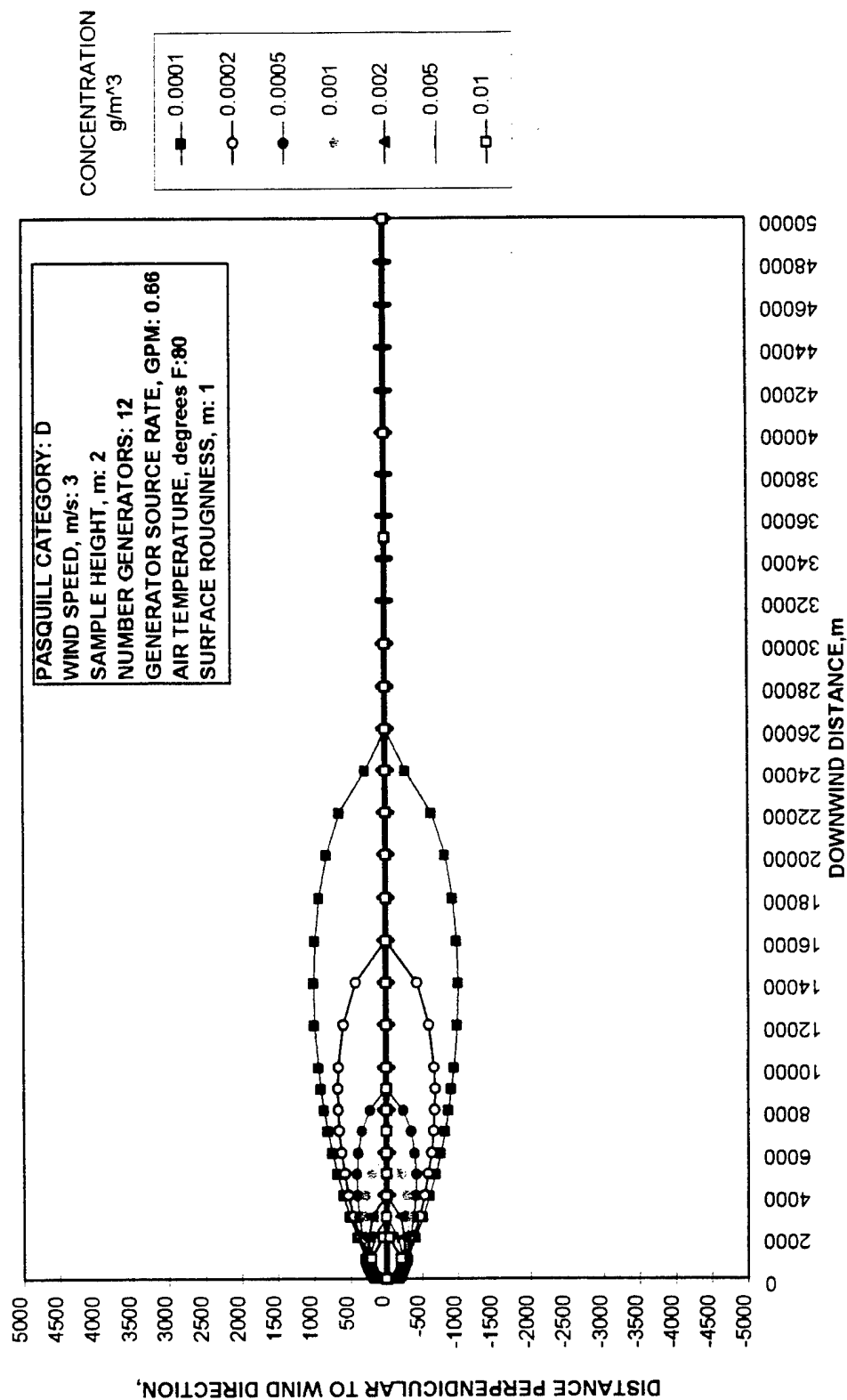
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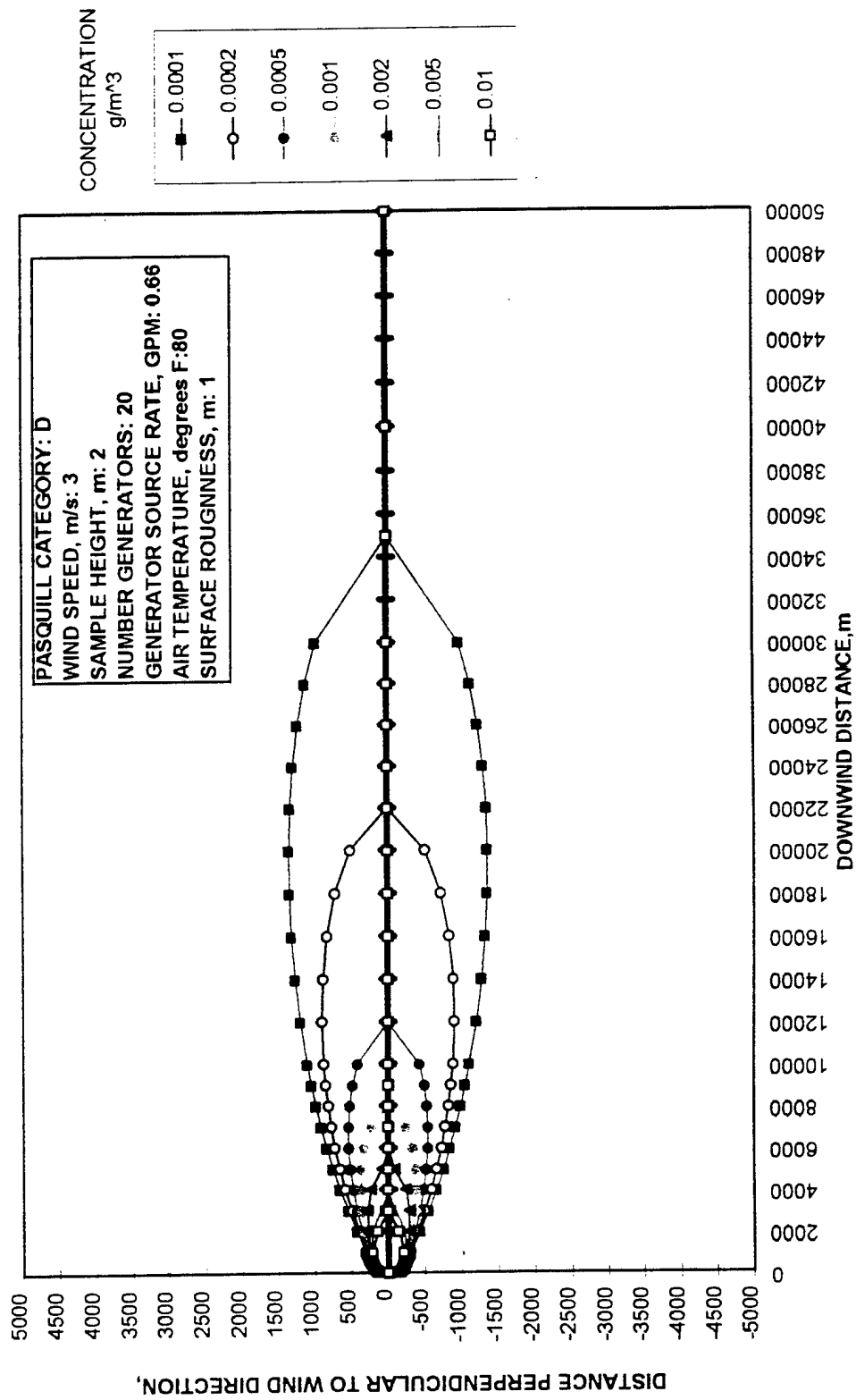
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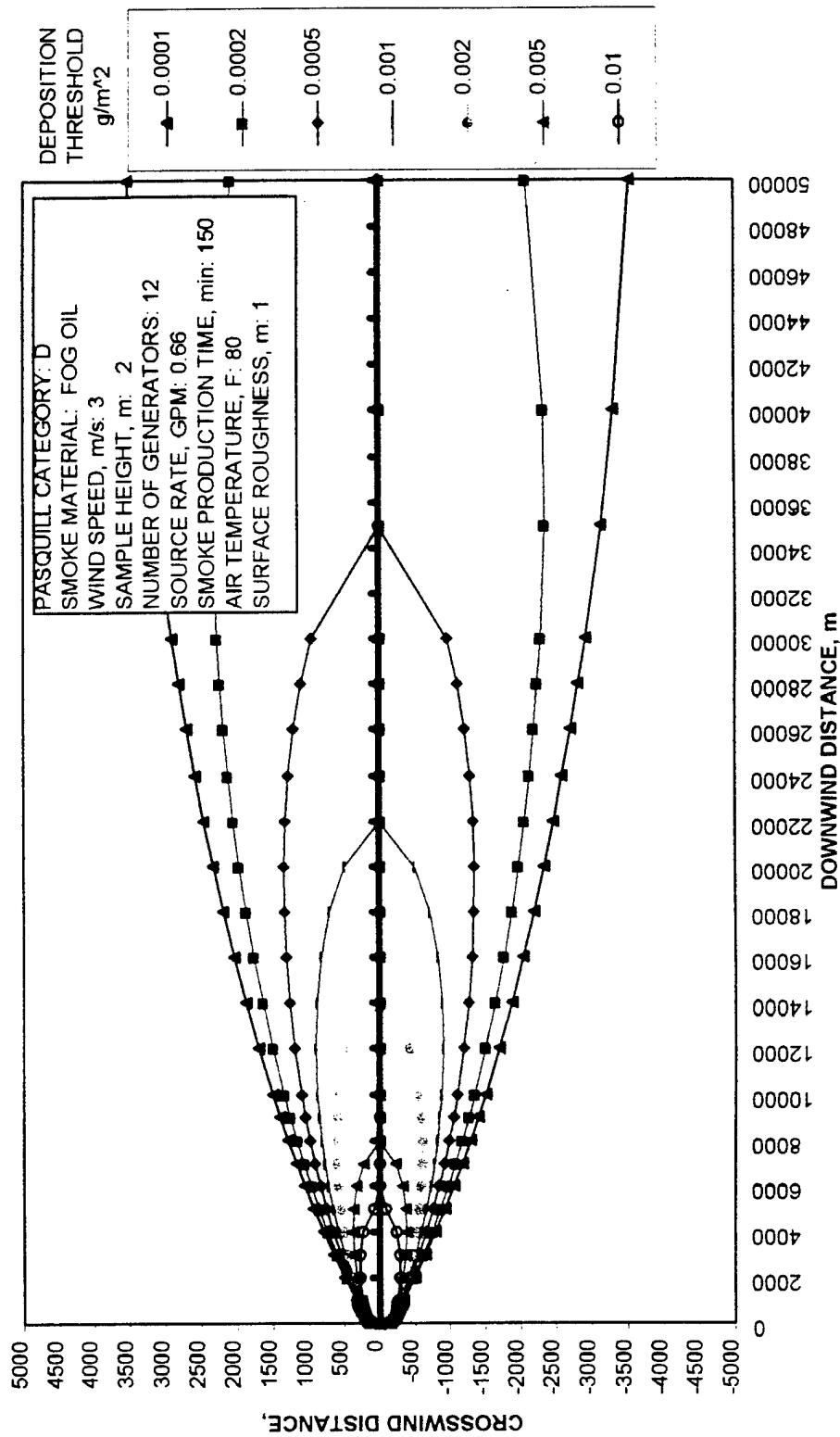
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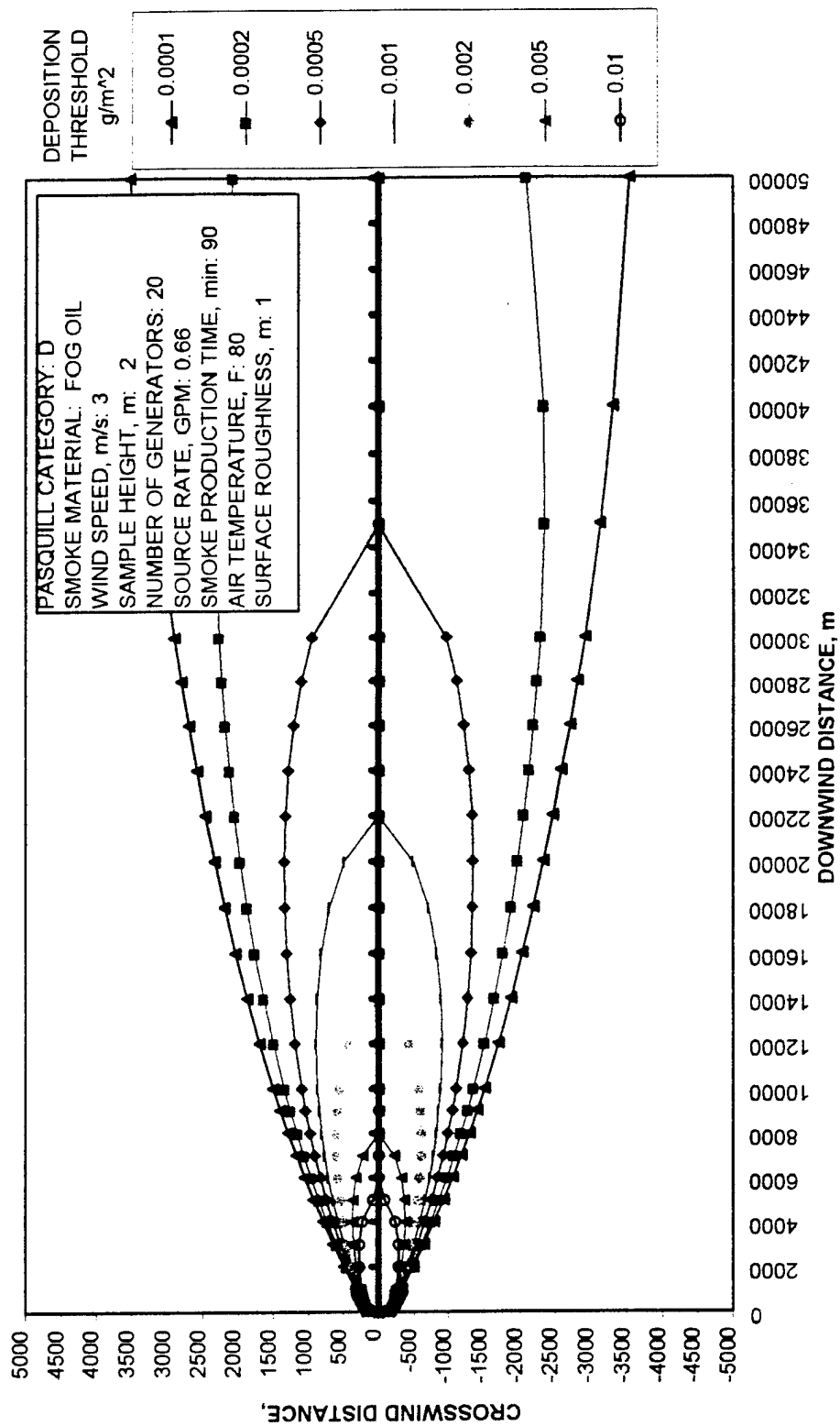
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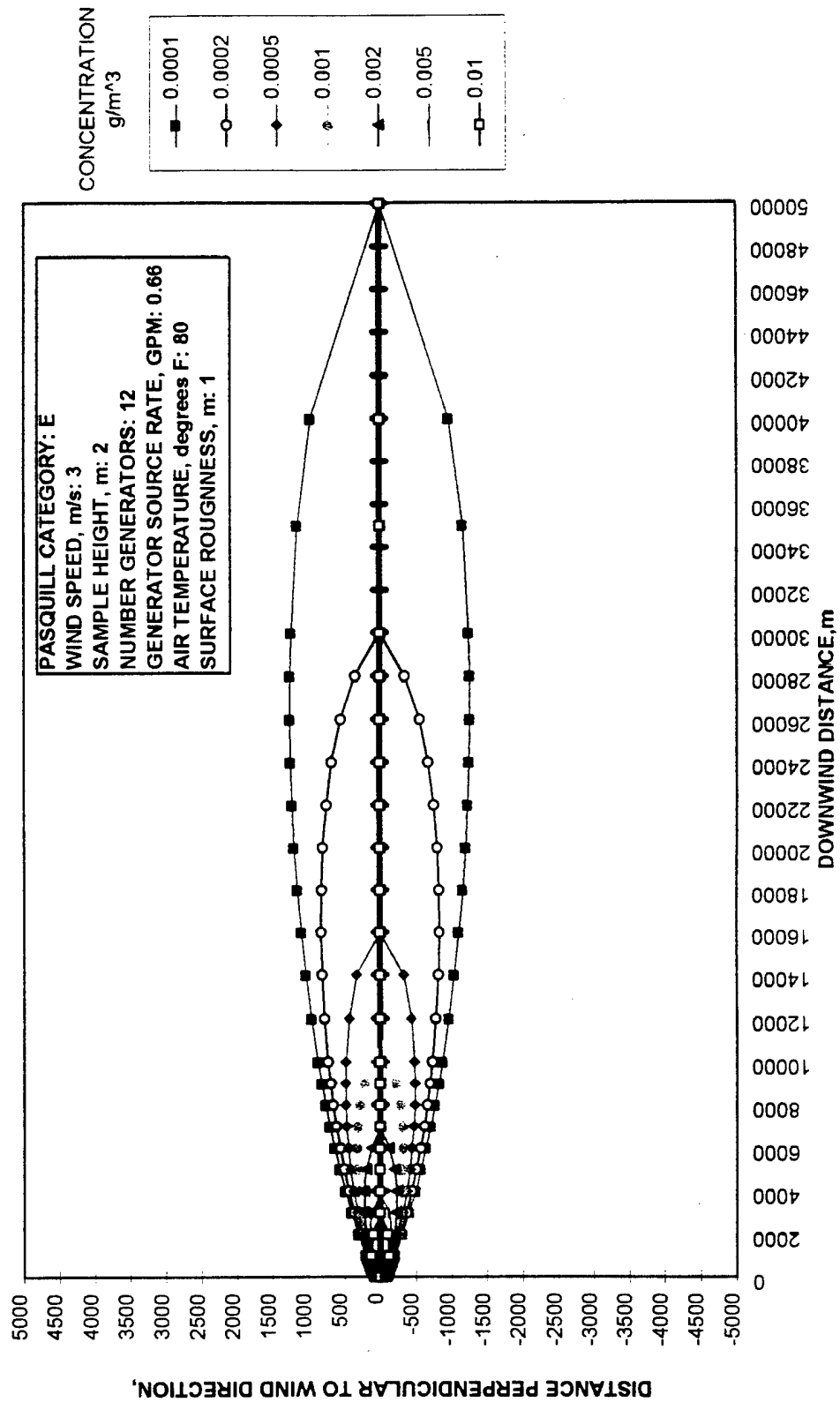
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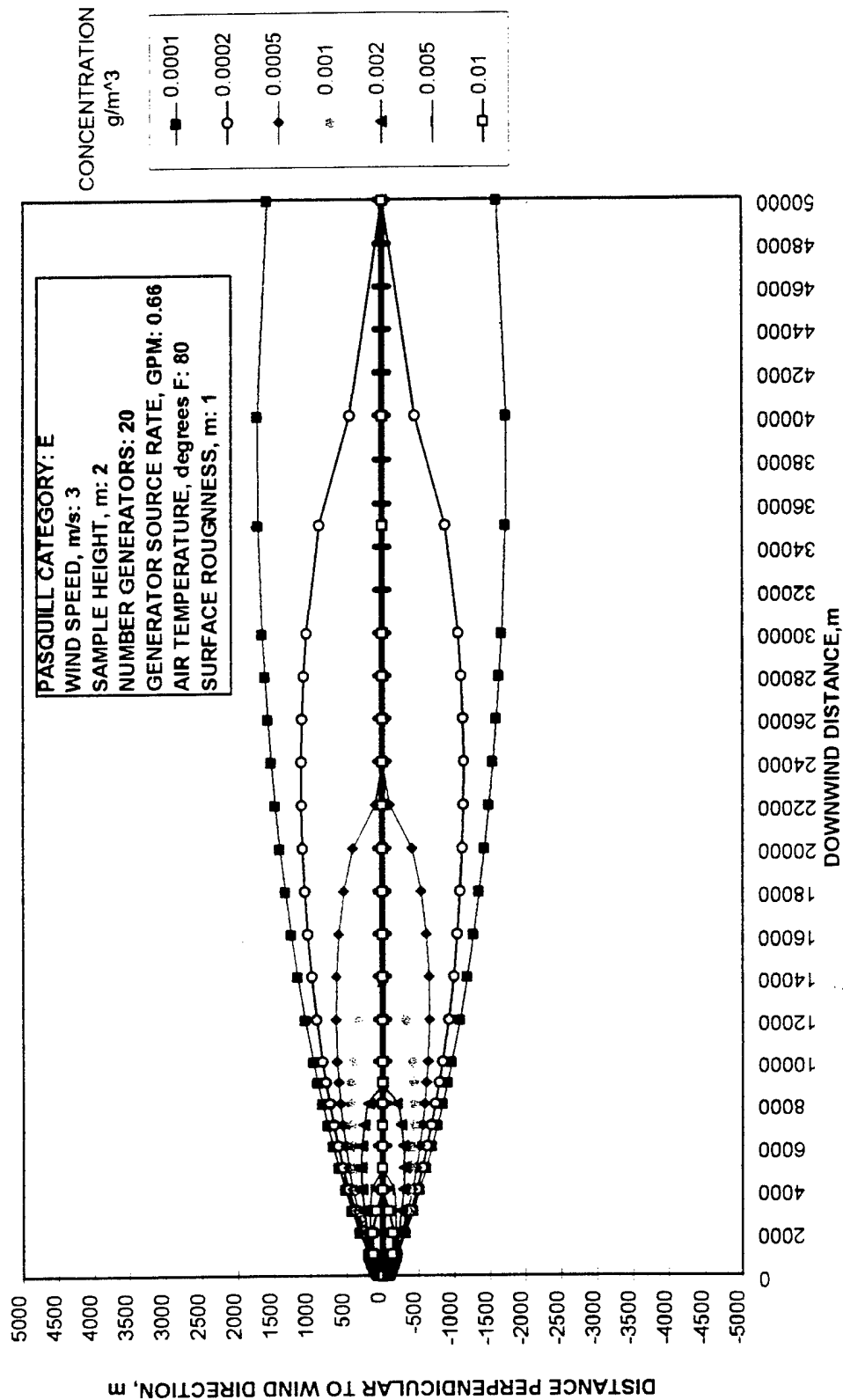
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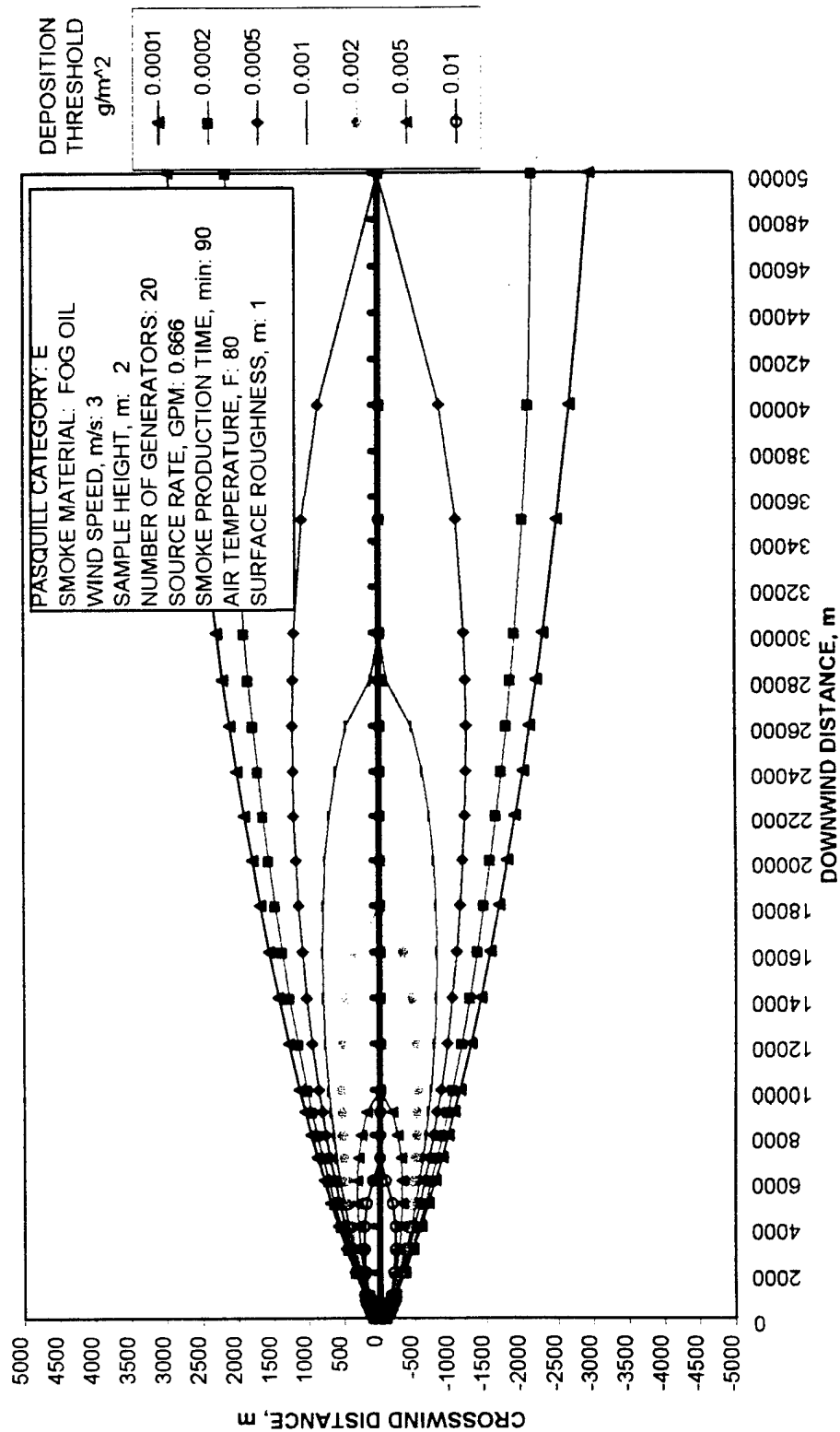
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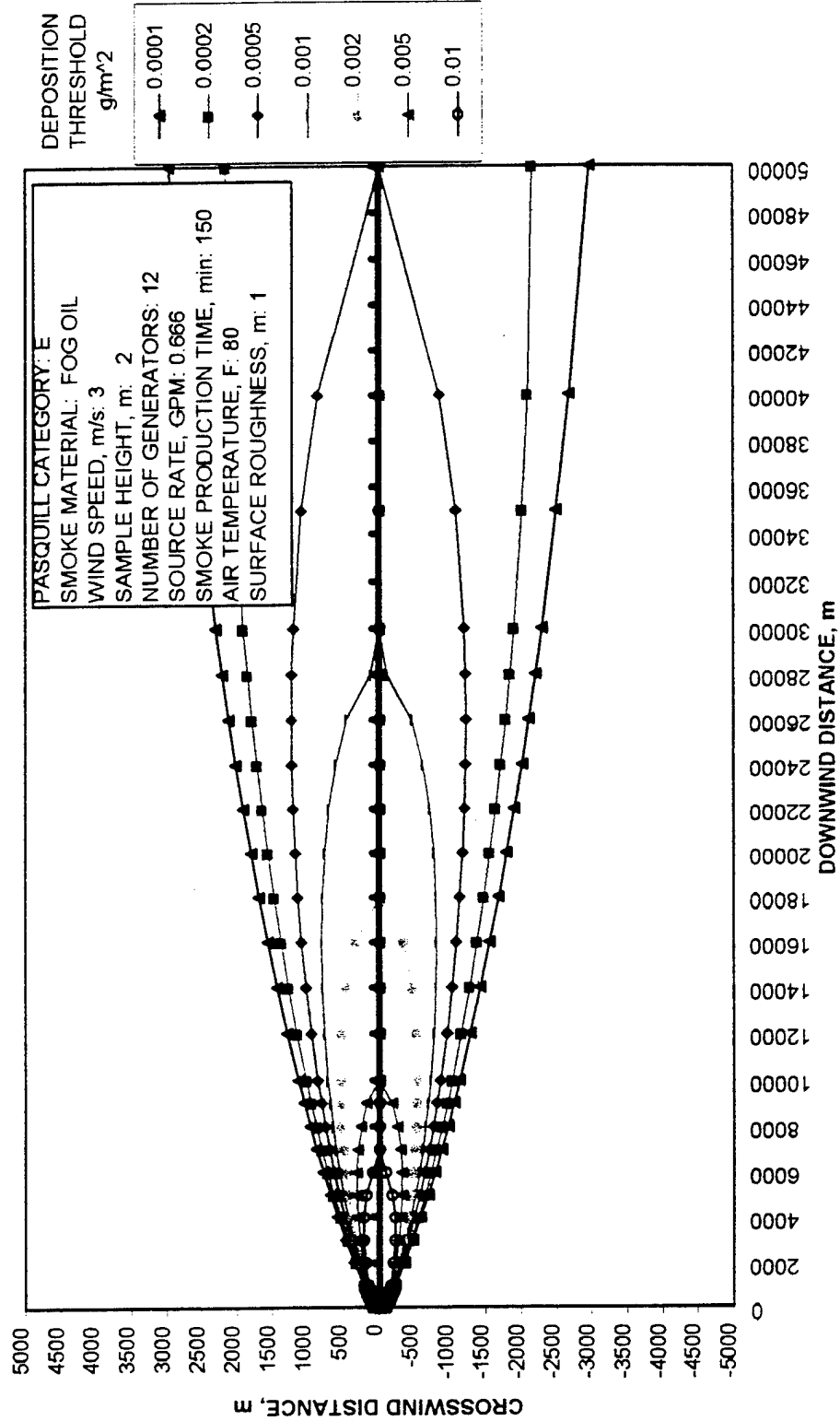
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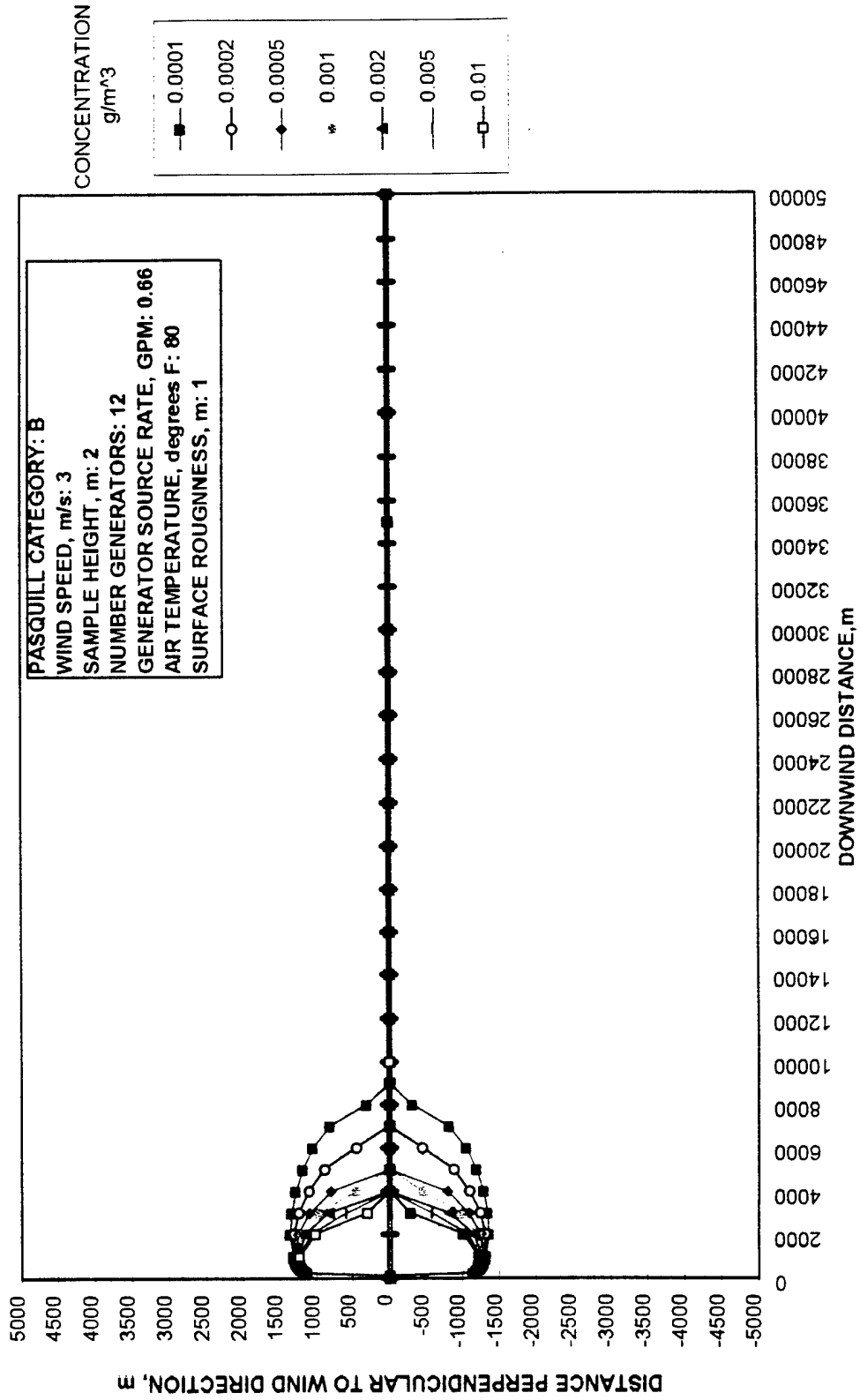
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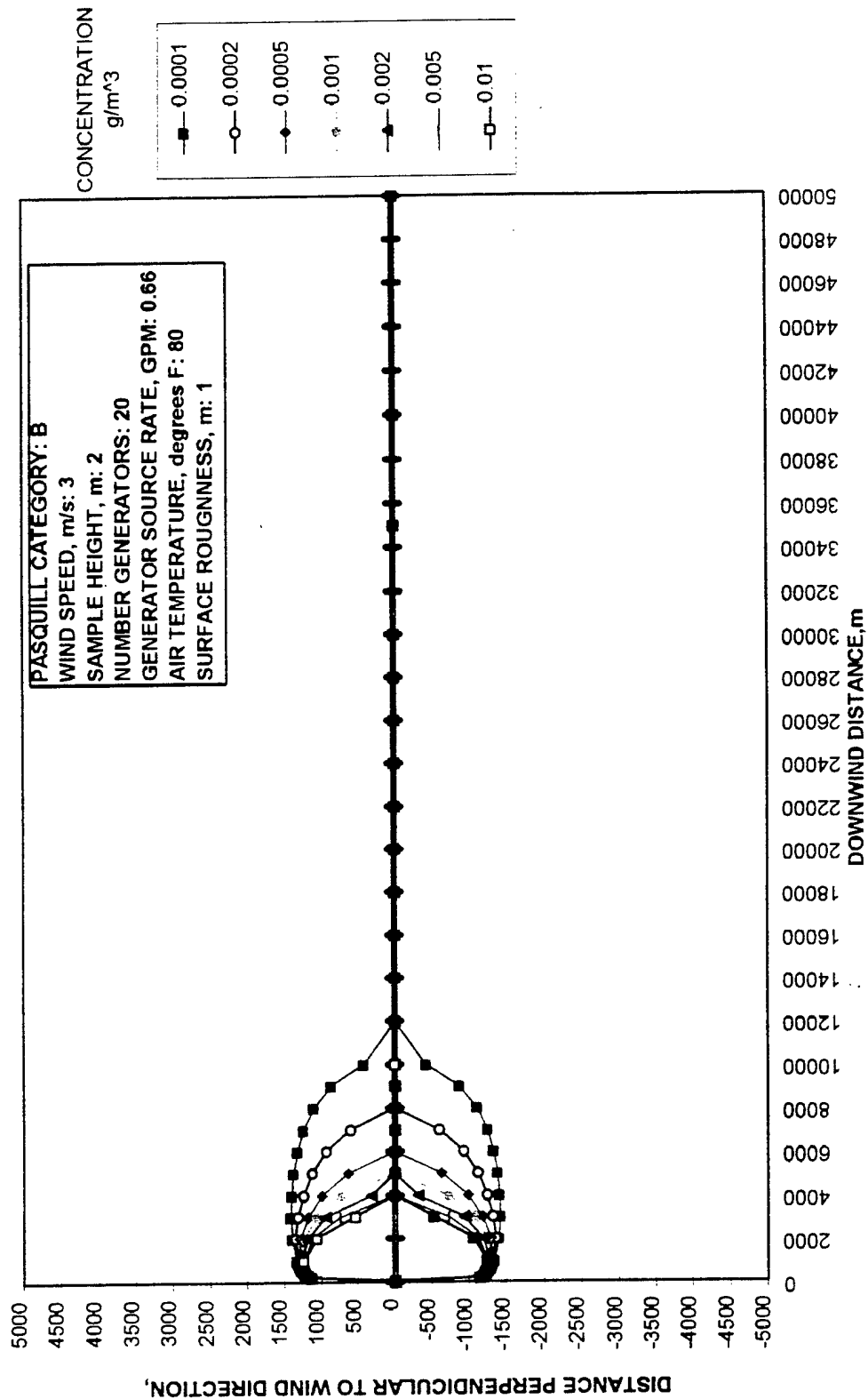
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FOG OIL SMOKE CONCENTRATION ISOPLETHS FOR FORESTED HILLY TERRAIN, FT. LEONARD WOOD, MO



Appendix II
Intake Calculations for Green Frog

APPENDIX II:

Intake Calculations for Green Frog

Relocate Current Practice

INTAKE PARAMETERS FOR GREEN FROGS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

Green frog intake, RCP

Static Smoke										
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
		Daily IR	Hourly IR	Event IR						
Inhalation										
4000	0.01	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-08	
4000	0.005	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	3.6E-08	
5000	0.002	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	1.5E-08	
5000	0.001	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-09	
6000	0.0005	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	3.6E-09	
8000	0.0002	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	1.5E-09	
12000	0.0001	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-10	
Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion										
4000	0.01	0.000179	0.17	1.1E-05	8.3E-01	16.7	2.5	0.049	1825	4.1E-06
5000	0.005	0.000179	0.17	5.3E-06	8.3E-01	16.7	2.5	0.049	1825	2.0E-06
6000	0.002	0.000179	0.17	2.1E-06	8.3E-01	16.7	2.5	0.049	1825	8.2E-07
7000	0.001	0.000179	0.17	1.1E-06	8.3E-01	16.7	2.5	0.049	1825	4.1E-07
9500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	16.7	2.5	0.049	1825	2.0E-07
14000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	16.7	2.5	0.049	1825	8.2E-08
20000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	16.7	2.5	0.049	1825	4.1E-08
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption										
4000	0.01	0.0017	1	1	16.7	2.5	0.049	1825	7.9E-06	
5000	0.005	0.0017	1	1	16.7	2.5	0.049	1825	4.0E-06	
6000	0.002	0.0017	1	1	16.7	2.5	0.049	1825	1.6E-06	
7000	0.001	0.0017	1	1	16.7	2.5	0.049	1825	7.9E-07	
9500	0.0005	0.0017	1	1	16.7	2.5	0.049	1825	4.0E-07	
14000	0.0002	0.0017	1	1	16.7	2.5	0.049	1825	1.6E-07	
20000	0.0001	0.0017	1	1	16.7	2.5	0.049	1825	7.9E-08	

Pasquill Category B

Green frog intake, RCP

Static Smoke		Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
				Daily IR	Hourly IR	Event IR					
Inhalation		3500	0.01	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-08
		3500	0.005	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	3.6E-08
		4000	0.002	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	1.5E-08
		5500	0.001	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-09
		7500	0.0005	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	3.6E-09
		12000	0.0002	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	1.5E-09
		18500	0.0001	2.5E-04	1.0E-05	1.6E-05	16.7	2.5	0.049	1825	7.3E-10
		Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion		3500	0.01	0.000179	0.17	1.1E-05	8.3E-01	2.5	0.049	1825	4.1E-06
		4000	0.005	0.000179	0.17	5.3E-06	8.3E-01	2.5	0.049	1825	2.0E-06
		5500	0.002	0.000179	0.17	2.1E-06	8.3E-01	2.5	0.049	1825	8.2E-07
		8000	0.001	0.000179	0.17	1.1E-06	8.3E-01	2.5	0.049	1825	4.1E-07
		12000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	2.5	0.049	1825	2.0E-07
		24000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	2.5	0.049	1825	8.2E-08
		40000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	2.5	0.049	1825	4.1E-08
		Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption		3500	0.01	0.0017		1	16.7	2.5	0.049	1825	7.9E-06
		4000	0.005	0.0017		1	16.7	2.5	0.049	1825	4.0E-06
		5500	0.002	0.0017		1	16.7	2.5	0.049	1825	1.6E-06
		8000	0.001	0.0017		1	16.7	2.5	0.049	1825	7.9E-07
		12000	0.0005	0.0017		1	16.7	2.5	0.049	1825	4.0E-07
		24000	0.0002	0.0017		1	16.7	2.5	0.049	1825	1.6E-07
		40000	0.0001	0.0017		1	16.7	2.5	0.049	1825	7.9E-08

Pasquill Category C

Green frog intake, RCP

[illegible]

Pasquin Category D

[illegible]

Green frog intake, RCP

[illegible]

Pasquill Category B

[illegible]

[illegible]

Pasquill Category D

[illegible]

[illegible]

Pasquill Category B

Green frog intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
		Daily IR	Hourly IR	Event IR									
Inhalation	3000	0.01	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	2.6E-07			
	3000	0.005	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	1.3E-07			
	3000	0.002	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	5.1E-08			
	4500	0.001	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	2.6E-08			
	6500	0.0005	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	1.3E-08			
	9500	0.0002	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	5.1E-09			
	14000	0.0001	2.5E-04	1.0E-05	2.6E-05	17.6	2.5	0.049	912.5	2.6E-09			
Ingestion	3000	0.01	0.000179	0.17	1.1E-05	8.3E-01	17.6	2.5	0.049	912.5	8.6E-06		
	4000	0.005	0.000179	0.17	5.3E-06	8.3E-01	17.6	2.5	0.049	912.5	4.3E-06		
	5000	0.002	0.000179	0.17	2.1E-06	8.3E-01	17.6	2.5	0.049	912.5	1.7E-06		
	8500	0.001	0.000179	0.17	1.1E-06	8.3E-01	17.6	2.5	0.049	912.5	8.6E-07		
	12000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	17.6	2.5	0.049	912.5	4.3E-07		
	24000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	17.6	2.5	0.049	912.5	1.7E-07		
	40000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	17.6	2.5	0.049	912.5	8.6E-08		
Dermal Absorption	3000	0.01	0.0017	1	17.6	2.5	0.049	912.5	1.7E-05				
	4000	0.005	0.0017	1	17.6	2.5	0.049	912.5	8.4E-06				
	5000	0.002	0.0017	1	17.6	2.5	0.049	912.5	3.3E-06				
	8500	0.001	0.0017	1	17.6	2.5	0.049	912.5	1.7E-06				
	12000	0.0005	0.0017	1	17.6	2.5	0.049	912.5	8.4E-07				
	24000	0.0002	0.0017	1	17.6	2.5	0.049	912.5	3.3E-07				
	40000	0.0001	0.0017	1	17.6	2.5	0.049	912.5	1.7E-07				

Pasquill Category C

Green frog intake, RCP

[illegible]

Pasquill Category D

Green frog intake, RCP

[illegible]

Pasquill Category E

[illegible]

[illegible]

[illegible]

Green frog intake, RCP

[illegible]

Green frog intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	3.8E-07
	4000	0.005	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	1.9E-07
	4000	0.002	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	7.7E-08
	5000	0.001	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	3.8E-08
	5000	0.0005	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	1.9E-08
	7000	0.0002	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	7.7E-09
	9000	0.0001	2.5E-04	1.0E-05	2.6E-05	26.4	2.5	0.049	912.5	3.8E-09
Ingestion	4000	0.01	0.000179	1.1E-05	8.3E-01	26.4	2.5	0.049	912.5	1.3E-05
	5000	0.005	0.000179	5.3E-06	8.3E-01	26.4	2.5	0.049	912.5	6.5E-06
	6000	0.002	0.000179	2.1E-06	8.3E-01	26.4	2.5	0.049	912.5	2.6E-06
	7500	0.001	0.000179	1.1E-06	8.3E-01	26.4	2.5	0.049	912.5	1.3E-06
	9500	0.0005	0.000179	5.3E-07	8.3E-01	26.4	2.5	0.049	912.5	6.5E-07
	14500	0.0002	0.000179	2.1E-07	8.3E-01	26.4	2.5	0.049	912.5	2.6E-07
	20000	0.0001	0.000179	1.1E-07	8.3E-01	26.4	2.5	0.049	912.5	1.3E-07
Dermal Absorption	4000	0.01	0.0017			26.4	2.5	0.049	912.5	2.5E-05
	5000	0.005	0.0017			26.4	2.5	0.049	912.5	1.3E-05
	6000	0.002	0.0017			26.4	2.5	0.049	912.5	5.0E-06
	7500	0.001	0.0017			26.4	2.5	0.049	912.5	2.5E-06
	9500	0.0005	0.0017			26.4	2.5	0.049	912.5	1.3E-06
	14500	0.0002	0.0017			26.4	2.5	0.049	912.5	5.0E-07
	20000	0.0001	0.0017			26.4	2.5	0.049	912.5	2.5E-07

Pasquill Category B

[illegible]

[illegible]

Pasquill Category D

[illegible]

Operationally Preferred Training Method

Green frog intake, OPTM

Static Smoke		Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
				Daily IR	Hourly IR	Event IR					
Inhalation		4000	0.01	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-08
		4000	0.005	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	1.5E-08
		5000	0.002	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	6.2E-09
		5000	0.001	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-09
		6000	0.0005	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	1.5E-09
		8000	0.0002	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	6.2E-10
		12000	0.0001	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-10
		Distance (m)	Fog Oil Deposition (g/m ³)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion		4000	0.01	0.000179	0.17	1.1E-05	8.3E-01	7.1	2.5	0.049	1.7E-06
		5000	0.005	0.000179	0.17	5.3E-06	8.3E-01	7.1	2.5	0.049	8.7E-07
		6000	0.002	0.000179	0.17	2.1E-06	8.3E-01	7.1	2.5	0.049	3.5E-07
		7000	0.001	0.000179	0.17	1.1E-06	8.3E-01	7.1	2.5	0.049	1.7E-07
		9500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	7.1	2.5	0.049	8.7E-08
		14000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	7.1	2.5	0.049	3.5E-08
		20000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	7.1	2.5	0.049	1.7E-08
		Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption		4000	0.01	0.0017		1	7.1	2.5	0.049	1825	3.4E-06
		5000	0.005	0.0017		1	7.1	2.5	0.049	1825	1.7E-06
		6000	0.002	0.0017		1	7.1	2.5	0.049	1825	6.7E-07
		7000	0.001	0.0017		1	7.1	2.5	0.049	1825	3.4E-07
		9500	0.0005	0.0017		1	7.1	2.5	0.049	1825	1.7E-07
		14000	0.0002	0.0017		1	7.1	2.5	0.049	1825	6.7E-08
		20000	0.0001	0.0017		1	7.1	2.5	0.049	1825	3.4E-08

Pasquill Category B

Green frog intake, OPTM

Static Smoke		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
	Distance (m)			Intake Rate (m ³ /day)											
				Daily IR	Hourly IR										
Inhalation															
	3500		0.01	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		3.1E-08	
	3500		0.005	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		1.5E-08	
	4000		0.002	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		6.2E-09	
	5500		0.001	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		3.1E-09	
	7500		0.0005	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		1.5E-09	
	12000		0.0002	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		6.2E-10	
	18500		0.0001	2.5E-04	1.0E-05	1.6E-05		7.1	2.5	0.049		1825		3.1E-10	
Ingestion															
	3500		0.01	0.17	1.1E-05	8.3E-01		7.1	2.5	0.049		1825		1.7E-06	
	4000		0.005	0.17	5.3E-06	8.3E-01		7.1	2.5	0.049		1825		8.7E-07	
	5500		0.002	0.17	2.1E-06	8.3E-01		7.1	2.5	0.049		1825		3.5E-07	
	8000		0.001	0.17	1.1E-06	8.3E-01		7.1	2.5	0.049		1825		1.7E-07	
	12000		0.0005	0.17	5.3E-07	8.3E-01		7.1	2.5	0.049		1825		8.7E-08	
	24000		0.0002	0.17	2.1E-07	8.3E-01		7.1	2.5	0.049		1825		3.5E-08	
	40000		0.0001	0.17	1.1E-07	8.3E-01		7.1	2.5	0.049		1825		1.7E-08	
Dermal Absorption															
	3500		0.01	0.0017				7.1	2.5	0.049		1825		3.4E-06	
	4000		0.005	0.0017				7.1	2.5	0.049		1825		1.7E-06	
	5500		0.002	0.0017				7.1	2.5	0.049		1825		6.7E-07	
	8000		0.001	0.0017				7.1	2.5	0.049		1825		3.4E-07	
	12000		0.0005	0.0017				7.1	2.5	0.049		1825		1.7E-07	
	24000		0.0002	0.0017				7.1	2.5	0.049		1825		6.7E-08	
	40000		0.0001	0.0017				7.1	2.5	0.049		1825		3.4E-08	

Green frog intake, OPTM

Static Smoke											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	3500	0.01	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-08	
	4500	0.005	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	1.5E-08	
	6500	0.002	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	6.2E-09	
	8500	0.001	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-09	
	12500	0.0005	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	1.5E-09	
	22500	0.0002	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	6.2E-10	
	35500	0.0001	2.5E-04	1.0E-05	1.6E-05	7.1	2.5	0.049	1825	3.1E-10	
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion	6500	0.01	0.000179	0.17	1.1E-05	8.3E-01	7.1	2.5	0.049	1825	1.7E-06
	8500	0.005	0.000179	0.17	5.3E-06	8.3E-01	7.1	2.5	0.049	1825	8.7E-07
	14000	0.002	0.000179	0.17	2.1E-06	8.3E-01	7.1	2.5	0.049	1825	3.5E-07
	22000	0.001	0.000179	0.17	1.1E-06	8.3E-01	7.1	2.5	0.049	1825	1.7E-07
	35500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	7.1	2.5	0.049	1825	8.7E-08
	50000+	0.0002	0.000179	0.17	2.1E-07	8.3E-01	7.1	2.5	0.049	1825	3.5E-08
	50000++	0.0001	0.000179	0.17	1.1E-07	8.3E-01	7.1	2.5	0.049	1825	1.7E-08
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption	6500	0.01	0.0017	1	1	7.1	2.5	0.049	1825	3.4E-06	
	8500	0.005	0.0017	1	1	7.1	2.5	0.049	1825	1.7E-06	
	14000	0.002	0.0017	1	1	7.1	2.5	0.049	1825	6.7E-07	
	22000	0.001	0.0017	1	1	7.1	2.5	0.049	1825	3.4E-07	
	35500	0.0005	0.0017	1	1	7.1	2.5	0.049	1825	1.7E-07	
	50000+	0.0002	0.0017	1	1	7.1	2.5	0.049	1825	6.7E-08	
	50000++	0.0001	0.0017	1	1	7.1	2.5	0.049	1825	3.4E-08	

Pasquill Category D

[illegible]

Pasquill Category E

Green frog intake, OPTM

[illegible]

Pasquill Category B

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Green frog intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ² /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR				
	2500	0.01	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	3000	0.005	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	4500	0.002	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	6000	0.001	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	9500	0.0005	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	16500	0.0002	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	26500	0.0001	2.5E-04	1.0E-05	2.8E-05	12.7	2.5	0.049	912.5
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Ingestion					Daily IR				
	6500	0.01	0.000179	0.17	1.1E-05	12.7	2.5	0.049	912.5
	8500	0.005	0.000179	0.17	5.3E-06	12.7	2.5	0.049	912.5
	14500	0.002	0.000179	0.17	2.1E-06	12.7	2.5	0.049	912.5
	22000	0.001	0.000179	0.17	1.1E-06	12.7	2.5	0.049	912.5
	35500	0.0005	0.000179	0.17	5.3E-07	12.7	2.5	0.049	912.5
	50000+	0.0002	0.000179	0.17	2.1E-07	12.7	2.5	0.049	912.5
	50000++	0.0001	0.000179	0.17	1.1E-07	12.7	2.5	0.049	912.5
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	6500	0.01	0.0017		1	12.7	2.5	0.049	912.5
	8500	0.005	0.0017		1	12.7	2.5	0.049	912.5
	14500	0.002	0.0017		1	12.7	2.5	0.049	912.5
	22000	0.001	0.0017		1	12.7	2.5	0.049	912.5
	35500	0.0005	0.0017		1	12.7	2.5	0.049	912.5
	50000+	0.0002	0.0017		1	12.7	2.5	0.049	912.5
	50000++	0.0001	0.0017		1	12.7	2.5	0.049	912.5

Pasquill Category D

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[illegible]

[illegible]

Green frog intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ² /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-07
	4000	0.005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-07
	4000	0.002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-08
	5000	0.001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-08
	5000	0.0005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-08
	7000	0.0002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-09
	9000	0.0001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-09
Ingestion	4000	0.01	0.17	1.1E-05	8.3E-01	19.0	2.5	0.049	912.5	9.3E-06
	5000	0.005	0.17	5.3E-06	8.3E-01	19.0	2.5	0.049	912.5	4.7E-06
	6000	0.002	0.17	2.1E-06	8.3E-01	19.0	2.5	0.049	912.5	1.9E-06
	7500	0.001	0.17	1.1E-06	8.3E-01	19.0	2.5	0.049	912.5	9.3E-07
	9500	0.0005	0.17	5.3E-07	8.3E-01	19.0	2.5	0.049	912.5	4.7E-07
	14500	0.0002	0.17	2.1E-07	8.3E-01	19.0	2.5	0.049	912.5	1.9E-07
	20000	0.0001	0.17	1.1E-07	8.3E-01	19.0	2.5	0.049	912.5	9.3E-08
Dermal Absorption	4000	0.01	0.0017			19.0	2.5	0.049	912.5	1.8E-05
	5000	0.005	0.0017			19.0	2.5	0.049	912.5	9.0E-06
	6000	0.002	0.0017			19.0	2.5	0.049	912.5	3.6E-06
	7500	0.001	0.0017			19.0	2.5	0.049	912.5	1.8E-06
	9500	0.0005	0.0017			19.0	2.5	0.049	912.5	9.0E-07
	14500	0.0002	0.0017			19.0	2.5	0.049	912.5	3.6E-07
	20000	0.0001	0.0017			19.0	2.5	0.049	912.5	1.8E-07

Pasquill Category B

Green frog intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)			
Inhalation			Daily IR	Hourly IR	Event IR								
	3000	0.01	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-07			
	3000	0.005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-07			
	3000	0.002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-08			
	4500	0.001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-08			
	6500	0.0005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-08			
	9500	0.0002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-09			
	14000	0.0001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-09			
Fog Oil													
	Distance (m)	Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
Ingestion						Daily IR							
	3000	0.01	0.000179	0.17	1.1E-05	8.3E-01	19.0	2.5	0.049	912.5	9.3E-06		
	4000	0.005	0.000179	0.17	5.3E-06	8.3E-01	19.0	2.5	0.049	912.5	4.7E-06		
	5000	0.002	0.000179	0.17	2.1E-06	8.3E-01	19.0	2.5	0.049	912.5	1.9E-06		
	8500	0.001	0.000179	0.17	1.1E-06	8.3E-01	19.0	2.5	0.049	912.5	9.3E-07		
	12000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	19.0	2.5	0.049	912.5	4.7E-07		
	24000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	19.0	2.5	0.049	912.5	1.9E-07		
	40000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	19.0	2.5	0.049	912.5	9.3E-08		
Fog Oil Concentration													
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
Dermal Absorption													
	3000	0.01	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-05			
	4000	0.005	0.0017	1	1	19.0	2.5	0.049	912.5	9.0E-06			
	5000	0.002	0.0017	1	1	19.0	2.5	0.049	912.5	3.6E-06			
	8500	0.001	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-06			
	12000	0.0005	0.0017	1	1	19.0	2.5	0.049	912.5	9.0E-07			
	24000	0.0002	0.0017	1	1	19.0	2.5	0.049	912.5	3.6E-07			
	40000	0.0001	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-07			

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Green frog intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Inhalation			Daily IR	Hourly IR	Event IR						
	3000	0.01	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.6E-07	
	4000	0.005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-07	
	7000	0.002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-08	
	10000	0.001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-08	
	16000	0.0005	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	1.4E-08	
	30000	0.0002	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	5.5E-09	
	50000	0.0001	2.5E-04	1.0E-05	2.6E-05	19.0	2.5	0.049	912.5	2.8E-09	
Fog Oil											
	Distance (m)	Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion						Daily IR					
	7500	0.01	0.000179	0.17	1.1E-05	8.3E-01	19.0	2.5	0.049	912.5	9.3E-06
	10000	0.005	0.000179	0.17	5.3E-06	8.3E-01	19.0	2.5	0.049	912.5	4.7E-06
	18000	0.002	0.000179	0.17	2.1E-06	8.3E-01	19.0	2.5	0.049	912.5	1.9E-06
	30000	0.001	0.000179	0.17	1.1E-06	8.3E-01	19.0	2.5	0.049	912.5	9.3E-07
	50000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	19.0	2.5	0.049	912.5	4.7E-07
	50000+	0.0002	0.000179	0.17	2.1E-07	8.3E-01	19.0	2.5	0.049	912.5	1.9E-07
	50000++	0.0001	0.000179	0.17	1.1E-07	8.3E-01	19.0	2.5	0.049	912.5	9.3E-08
Dermal Absorption											
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	7500	0.01	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-05	
	10000	0.005	0.0017	1	1	19.0	2.5	0.049	912.5	9.0E-06	
	18000	0.002	0.0017	1	1	19.0	2.5	0.049	912.5	3.6E-06	
	30000	0.001	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-06	
	50000	0.0005	0.0017	1	1	19.0	2.5	0.049	912.5	9.0E-07	
	50000+	0.0002	0.0017	1	1	19.0	2.5	0.049	912.5	3.6E-07	
	50000++	0.0001	0.0017	1	1	19.0	2.5	0.049	912.5	1.8E-07	

Environmentally Preferred Training Method

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Pasquilli Category B

Green frog intake, EPTM

Static Smoke	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	3500	0.01	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-09
	3500	0.005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-09
	4000	0.002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	8.0E-10
	5500	0.001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-10
	7500	0.0005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-10
	12000	0.0002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	6.0E-11
	18500	0.0001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-11
Ingestion	3500	0.01	0.000179	1.1E-05	8.3E-01	0.9	2.5	0.049	1825	2.2E-07
	4000	0.005	0.000179	5.9E-06	8.3E-01	0.9	2.5	0.049	1825	1.1E-07
	5500	0.002	0.000179	2.1E-06	8.3E-01	0.9	2.5	0.049	1825	4.5E-08
	8000	0.001	0.000179	1.1E-06	8.3E-01	0.9	2.5	0.049	1825	2.2E-08
	12000	0.0005	0.000179	5.9E-07	8.3E-01	0.9	2.5	0.049	1825	1.1E-08
	24000	0.0002	0.000179	2.1E-07	8.3E-01	0.9	2.5	0.049	1825	4.5E-09
	40000	0.0001	0.000179	1.1E-07	8.3E-01	0.9	2.5	0.049	1825	2.2E-09
Dermal Absorption	3500	0.01	0.0017	0.0017	1	0.9	2.5	0.049	1825	4.4E-07
	4000	0.005	0.0017	0.0017	1	0.9	2.5	0.049	1825	2.2E-07
	5500	0.002	0.0017	0.0017	1	0.9	2.5	0.049	1825	8.7E-08
	8000	0.001	0.0017	0.0017	1	0.9	2.5	0.049	1825	4.4E-08
	12000	0.0005	0.0017	0.0017	1	0.9	2.5	0.049	1825	2.2E-08
	24000	0.0002	0.0017	0.0017	1	0.9	2.5	0.049	1825	8.7E-09
	40000	0.0001	0.0017	0.0017	1	0.9	2.5	0.049	1825	4.4E-09

Green frog intake, EPTM

Static Smoke		Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
				Daily IR	Hourly IR	Event IR					
Inhalation		3500	0.01	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-09
		4500	0.005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-09
		6500	0.002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	8.0E-10
		8500	0.001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-10
		12500	0.0005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-10
		22500	0.0002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	8.0E-11
		35500	0.0001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-11
Ingestion		6500	0.01	0.000179	0.17	1.1E-05	8.3E-01	2.5	0.049	1825	2.2E-07
		8500	0.005	0.000179	0.17	5.3E-06	8.3E-01	2.5	0.049	1825	1.1E-07
		14000	0.002	0.000179	0.17	2.1E-06	8.3E-01	2.5	0.049	1825	4.5E-08
		22000	0.001	0.000179	0.17	1.1E-06	8.3E-01	2.5	0.049	1825	2.2E-08
		35500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	2.5	0.049	1825	1.1E-08
		50000+	0.0002	0.000179	0.17	2.1E-07	8.3E-01	2.5	0.049	1825	4.5E-09
		50000++	0.0001	0.000179	0.17	1.1E-07	8.3E-01	2.5	0.049	1825	2.2E-09
Dermal Absorption		6500	0.01	0.0017			1	0.9	0.049	1825	4.4E-07
		8500	0.005	0.0017			1	0.9	0.049	1825	2.2E-07
		14000	0.002	0.0017			1	0.9	0.049	1825	8.7E-08
		22000	0.001	0.0017			1	0.9	0.049	1825	4.4E-08
		35500	0.0005	0.0017			1	0.9	0.049	1825	2.2E-08
		50000+	0.0002	0.0017			1	0.9	0.049	1825	8.7E-09
		50000++	0.0001	0.0017			1	0.9	0.049	1825	4.4E-09

Pasquill Category D

Green frog intake, EPTM

Static Smoke											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation			2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-09	
	4000	0.01	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-09	
	5000	0.005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	8.0E-10	
	9000	0.002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-10	
	14000	0.001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	2.0E-10	
	24000	0.0005	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	8.0E-11	
	50000	0.0002	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825	4.0E-11	
	50000+	0.0001	2.5E-04	1.0E-05	1.6E-05	0.9	2.5	0.049	1825		

Pasquill Category E

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Pasquill Category B

Green frog intake, EPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)			
			Daily IR	Hourly IR	Event IR								
Inhalation	3000	0.01	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	2.4E-07			
	3000	0.005	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	1.2E-07			
	3000	0.002	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	4.8E-08			
	4500	0.001	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	2.4E-08			
	6500	0.0005	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	1.2E-08			
	9500	0.0002	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	4.8E-09			
	14000	0.0001	2.5E-04	1.0E-05	2.6E-05	16.3	2.5	0.049	912.5	2.4E-09			
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
Ingestion	3000	0.01	0.000179	0.17	1.1E-05	8.3E-01	16.3	2.5	0.049	912.5	8.0E-06		
	4000	0.005	0.000179	0.17	5.3E-06	8.3E-01	16.3	2.5	0.049	912.5	4.0E-06		
	5000	0.002	0.000179	0.17	2.1E-06	8.3E-01	16.3	2.5	0.049	912.5	1.6E-06		
	8500	0.001	0.000179	0.17	1.1E-06	8.3E-01	16.3	2.5	0.049	912.5	8.0E-07		
	12000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	16.3	2.5	0.049	912.5	4.0E-07		
	24000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	16.3	2.5	0.049	912.5	1.6E-07		
	40000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	16.3	2.5	0.049	912.5	8.0E-08		
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
Dermal Absorption	3000	0.01	0.0017		1	16.3	2.5	0.049	912.5	1.6E-05			
	4000	0.005	0.0017		1	16.3	2.5	0.049	912.5	7.8E-06			
	5000	0.002	0.0017		1	16.3	2.5	0.049	912.5	3.1E-06			
	8500	0.001	0.0017		1	16.3	2.5	0.049	912.5	1.6E-06			
	12000	0.0005	0.0017		1	16.3	2.5	0.049	912.5	7.8E-07			
	24000	0.0002	0.0017		1	16.3	2.5	0.049	912.5	3.1E-07			
	40000	0.0001	0.0017		1	16.3	2.5	0.049	912.5	1.6E-07			

Pasquill Category C

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Pasquill Category D

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Pasquill Category E

[illegible]

Green frog intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	4000	0.01	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	1.8E-07	
	4000	0.005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	8.9E-08	
	4000	0.002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	3.6E-08	
	5000	0.001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	1.8E-08	
	5000	0.0005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	8.9E-09	
	7000	0.0002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	3.6E-09	
	9000	0.0001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	1.8E-09	
Ingestion	4000	0.01	0.000179	0.17	1.1E-05	8.3E-01	12.3	2.5	0.049	912.5	6.0E-06
	5000	0.005	0.000179	0.17	5.3E-06	8.3E-01	12.3	2.5	0.049	912.5	3.0E-06
	6000	0.002	0.000179	0.17	2.1E-06	8.3E-01	12.3	2.5	0.049	912.5	1.2E-06
	7500	0.001	0.000179	0.17	1.1E-06	8.3E-01	12.3	2.5	0.049	912.5	6.0E-07
	9500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	12.3	2.5	0.049	912.5	3.0E-07
	14500	0.0002	0.000179	0.17	2.1E-07	8.3E-01	12.3	2.5	0.049	912.5	1.2E-07
	20000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	12.3	2.5	0.049	912.5	6.0E-08
Dermal Absorption	4000	0.01		0.0017		1	12.3	2.5	0.049	912.5	1.2E-05
	5000	0.005		0.0017		1	12.3	2.5	0.049	912.5	5.8E-06
	6000	0.002		0.0017		1	12.3	2.5	0.049	912.5	2.3E-06
	7500	0.001		0.0017		1	12.3	2.5	0.049	912.5	1.2E-06
	9500	0.0005		0.0017		1	12.3	2.5	0.049	912.5	5.8E-07
	14500	0.0002		0.0017		1	12.3	2.5	0.049	912.5	2.3E-07
	20000	0.0001		0.0017		1	12.3	2.5	0.049	912.5	1.2E-07

Pasquill Category B

Green frog intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR				AT (days)	
Inhalation	3000	0.01	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	3000	0.005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	3000	0.002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	4500	0.001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	6500	0.0005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	9500	0.0002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	14000	0.0001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5	
	Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
						Daily IR				
Ingestion	3000	0.01	0.000179	0.17	1.1E-05	8.3E-01	12.3	2.5	0.049	912.5
	4000	0.005	0.000179	0.17	5.3E-06	8.3E-01	12.3	2.5	0.049	912.5
	5000	0.002	0.000179	0.17	2.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	8500	0.001	0.000179	0.17	1.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	12000	0.0005	0.000179	0.17	5.3E-07	8.3E-01	12.3	2.5	0.049	912.5
	24000	0.0002	0.000179	0.17	2.1E-07	8.3E-01	12.3	2.5	0.049	912.5
	40000	0.0001	0.000179	0.17	1.1E-07	8.3E-01	12.3	2.5	0.049	912.5
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption	3000	0.01	0.0017		1	12.3	2.5	0.049	912.5	
	4000	0.005	0.0017		1	12.3	2.5	0.049	912.5	
	5000	0.002	0.0017		1	12.3	2.5	0.049	912.5	
	8500	0.001	0.0017		1	12.3	2.5	0.049	912.5	
	12000	0.0005	0.0017		1	12.3	2.5	0.049	912.5	
	24000	0.0002	0.0017		1	12.3	2.5	0.049	912.5	
	40000	0.0001	0.0017		1	12.3	2.5	0.049	912.5	

Pasquill Category C

Green frog intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
Distance (m)	Fog Oil Concentration (g/m ³)		Intake Rate (m ² /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)	
	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)					
Ingestion	Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Inhalation	2500	0.01	0.000179	0.17	1.1E-05	8.3E-01	12.3	2.5	0.049	912.5
	3000	0.005	0.000179	0.17	5.3E-06	8.3E-01	12.3	2.5	0.049	912.5
	4500	0.002	0.000179	0.17	2.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	6000	0.001	0.000179	0.17	1.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	9500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	12.3	2.5	0.049	912.5
	16500	0.0002	0.000179	0.17	2.1E-07	8.3E-01	12.3	2.5	0.049	912.5
	26500	0.0001	0.000179	0.17	1.1E-07	8.3E-01	12.3	2.5	0.049	912.5
Dermal Absorption	6500	0.01	0.000179	0.17	1.1E-05	8.3E-01	12.3	2.5	0.049	912.5
	8500	0.005	0.000179	0.17	5.3E-06	8.3E-01	12.3	2.5	0.049	912.5
	14500	0.002	0.000179	0.17	2.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	22000	0.001	0.000179	0.17	1.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	35500	0.0005	0.000179	0.17	5.3E-07	8.3E-01	12.3	2.5	0.049	912.5
	50000+	0.0002	0.000179	0.17	2.1E-07	8.3E-01	12.3	2.5	0.049	912.5
	50000++	0.0001	0.000179	0.17	1.1E-07	8.3E-01	12.3	2.5	0.049	912.5

Pasquill Category D

Green frog intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR				
	3000	0.01	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	4000	0.005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	7000	0.002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	10000	0.001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	16000	0.0005	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	30000	0.0002	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
	50000	0.0001	2.5E-04	1.0E-05	2.6E-05	12.3	2.5	0.049	912.5
Ingestion			Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
	7500	0.01	0.000179	1.1E-05	8.3E-01	12.3	2.5	0.049	912.5
	10000	0.005	0.000179	5.3E-06	8.3E-01	12.3	2.5	0.049	912.5
	18000	0.002	0.000179	2.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	30000	0.001	0.000179	1.1E-06	8.3E-01	12.3	2.5	0.049	912.5
	50000	0.0005	0.000179	5.3E-07	8.3E-01	12.3	2.5	0.049	912.5
	50000+	0.0002	0.000179	2.1E-07	8.3E-01	12.3	2.5	0.049	912.5
	50000++	0.0001	0.000179	1.1E-07	8.3E-01	12.3	2.5	0.049	912.5
Dermal Absorption			Fog Oil Concentration (g/m ³)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)
	7500	0.01	0.0017		1	12.3	2.5	0.049	912.5
	10000	0.005	0.0017		1	12.3	2.5	0.049	912.5
	18000	0.002	0.0017		1	12.3	2.5	0.049	912.5
	30000	0.001	0.0017		1	12.3	2.5	0.049	912.5
	50000	0.0005	0.0017		1	12.3	2.5	0.049	912.5
	50000+	0.0002	0.0017		1	12.3	2.5	0.049	912.5
	50000++	0.0001	0.0017		1	12.3	2.5	0.049	912.5

Pasquill Category E

Appendix III
Risk Characterization Tables for Green Frog

APPENDIX III:

Risk Characterization Tables for Green Frog

RISK PARAMETERS FOR GREEN FROGS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient>1. Acute Effect = no, if Acute Hazard Quotient <1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient>1. Chronic Effect = no, if Chronic Hazard Quotient<1.

Relocate Current Practice

Green frog risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	7.3E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-03	4.7E-01	No	No
	4000	5.0E-03	3.6E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-03	2.3E-01	No	No
	5000	2.0E-03	1.5E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-04	9.3E-02	No	No
	5000	1.0E-03	7.3E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-04	4.7E-02	No	No
	6000	5.0E-04	3.6E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-04	2.3E-02	No	No
	8000	2.0E-04	1.5E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-05	9.3E-03	No	No
	12000	1.0E-04	7.3E-10	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-05	4.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992														
Ingestion	4000	1.1E-05	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	3.0E-04	No	No
	5000	5.3E-06	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	1.5E-04	No	No
	6000	2.1E-06	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	5.9E-05	No	No
	7000	1.1E-06	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	3.0E-05	No	No
	9500	5.3E-07	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	1.5E-05	No	No
	14000	2.1E-07	8.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	5.9E-06	No	No
	20000	1.1E-07	4.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	3.0E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	4000	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.9E-06	No	No
	5000	5.0E-03	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.9E-06	No	No
	6000	2.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-06	No	No
	7000	1.0E-03	7.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.9E-07	No	No
	9500	5.0E-04	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.9E-07	No	No
	14000	2.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-07	No	No
	20000	1.0E-04	7.9E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	7.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	4.7E-01	No	No
	3500	5.0E-03	3.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	2.3E-01	No	No
	4000	2.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	9.3E-02	No	No
	5500	1.0E-03	7.3E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	4.7E-02	No	No
	7500	5.0E-04	3.6E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	2.3E-02	No	No
	12000	2.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	9.3E-03	No	No
	18500	1.0E-04	7.3E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	4.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1.1E-05	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	3.0E-04	No	No
	4000	5.3E-06	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	1.5E-04	No	No
	5500	2.1E-06	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	5.9E-05	No	No
	8000	1.1E-06	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	3.0E-05	No	No
	12000	5.3E-07	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	1.5E-05	No	No
	24000	2.1E-07	8.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	5.9E-06	No	No
	40000	1.1E-07	4.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	3.0E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1.0E-02	7.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.9E-06	No	No
	4000	5.0E-03	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.9E-06	No	No
	5500	2.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-06	No	No
	8000	1.0E-03	7.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.9E-07	No	No
	12000	5.0E-04	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.9E-07	No	No
	24000	2.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-07	No	No
	40000	1.0E-04	7.9E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	7.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	4.7E-01	No	No
	4500	5.0E-03	3.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	2.3E-01	No	No
	6500	2.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	9.3E-02	No	No
	8500	1.0E-03	7.3E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	4.7E-02	No	No
	12500	5.0E-04	3.6E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	2.3E-02	No	No
	22500	2.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	9.3E-03	No	No
	35500	1.0E-04	7.3E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	4.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	6500	1.1E-05	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	3.0E-04	No	No
	8500	5.3E-06	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	1.5E-04	No	No
	14000	2.1E-06	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	5.9E-05	No	No
	22000	1.1E-06	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	3.0E-05	No	No
	35500	5.3E-07	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	1.5E-05	No	No
	50000+	2.1E-07	8.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	5.9E-06	No	No
	50000++	1.1E-07	4.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	3.0E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	6500	1.0E-02	7.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.9E-06	No	No
	8500	5.0E-03	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.9E-06	No	No
	14000	2.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-06	No	No
	22000	1.0E-03	7.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.9E-07	No	No
	35500	5.0E-04	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.9E-07	No	No
	50000+	2.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-07	No	No
	50000++	1.0E-04	7.9E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category D

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	7.3E-08	60	0.1	16	16	160	3.75	1.6E-07	2.7E-03	4.7E-01	No	No
	5000	5.0E-03	3.6E-08	60	0.1	16	16	160	3.75	1.6E-07	1.3E-03	2.3E-01	No	No
	9000	2.0E-03	1.5E-08	60	0.1	16	16	160	3.75	1.6E-07	5.3E-04	9.3E-02	No	No
	14000	1.0E-03	7.3E-09	60	0.1	16	16	160	3.75	1.6E-07	2.7E-04	4.7E-02	No	No
	24000	5.0E-04	3.6E-09	60	0.1	16	16	160	3.75	1.6E-07	1.3E-04	2.3E-02	No	No
	50000	2.0E-04	1.5E-09	60	0.1	16	16	160	3.75	1.6E-07	5.3E-05	9.3E-03	No	No
	50000+	1.0E-04	7.3E-10	60	0.1	16	16	160	3.75	1.6E-07	2.7E-05	4.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	7500	1.1E-05	4.1E-06	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-06	3.0E-04	No	No
	10000	5.3E-06	2.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.8E-06	1.5E-04	No	No
	18000	2.1E-06	8.2E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.9E-06	5.9E-05	No	No
	30000	1.1E-06	4.1E-07	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-07	3.0E-05	No	No
	50000	5.3E-07	2.0E-07	17.6	22	16	16	1600	1.10	1.4E-02	4.8E-07	1.5E-05	No	No
	50000+	2.1E-07	8.2E-08	17.6	22	16	16	1600	1.10	1.4E-02	1.9E-07	5.9E-06	No	No
	50000++	1.1E-07	4.1E-08	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-08	3.0E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	7500	1.0E-02	1.7E-03	2	216	16	16	160	0.13	1.4E+00	6.0E-02	5.9E-06	No	No
	10000	5.0E-03	4.0E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-02	2.9E-06	No	No
	18000	2.0E-03	1.6E-06	2	216	16	16	160	0.13	1.4E+00	1.6E-02	1.2E-06	No	No
	30000	1.0E-03	7.9E-07	2	216	16	16	160	0.13	1.4E+00	6.0E-03	5.9E-07	No	No
	50000	5.0E-04	4.0E-07	2	216	16	16	160	0.13	1.4E+00	4.0E-03	2.9E-07	No	No
	50000+	2.0E-04	1.6E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-03	1.2E-07	No	No
	50000++	1.0E-04	7.9E-08	2	216	16	16	160	0.13	1.4E+00	6.0E-04	5.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, RCP

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	4000	1.0E-02	5.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	3.3E+00	No
	4000	5.0E-03	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.6E+00	No
	4000	2.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	6.6E-01	No
	5000	1.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	3.3E-01	No
	5000	5.0E-04	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.6E-01	No
	7000	2.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	6.6E-02	No
	9000	1.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	3.3E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	4000	1.1E-05	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-06	1.3E-03	No
	5000	5.3E-06	8.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-04	No
	6000	2.1E-06	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-04	No
	7500	1.1E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	1.3E-04	No
	9500	5.3E-07	8.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-05	No
	14500	2.1E-07	3.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-05	No
	20000	1.1E-07	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	1.3E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	4000	1.0E-02	3.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-05	No
	5000	5.0E-03	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No
	6000	2.0E-03	6.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.0E-06	No
	7500	1.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-06	No
	9500	5.0E-04	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No
	14500	2.0E-04	6.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.0E-07	No
	20000	1.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow		Distance (m)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation		3000	1.0E-02	5.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	3.3E+00	No	Yes
		3000	5.0E-03	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.6E+00	No	Yes
		3000	2.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	6.6E-01	No	No
		4500	1.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	3.3E-01	No	No
		6500	5.0E-04	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.6E-01	No	No
		9500	2.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	6.6E-02	No	No
		14000	1.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	3.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion		Distance (m)	Daily Chronic Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		3000	1.1E-05	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	1.3E-03	No	No
		4000	5.3E-06	8.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-04	No	No
		5000	2.1E-06	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-04	No	No
		8500	1.1E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	1.3E-04	No	No
		12000	5.3E-07	8.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-05	No	No
		24000	2.1E-07	3.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-05	No	No
		40000	1.1E-07	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	1.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption		Distance (m)	Daily Chronic Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		3000	1.0E-02	3.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-05	No	No
		4000	5.0E-03	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
		5000	2.0E-03	6.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.0E-06	No	No
		8500	1.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-06	No	No
		12000	5.0E-04	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
		24000	2.0E-04	6.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.0E-07	No	No
		40000	1.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Green frog risk, RCP

Mobile Smoke - Musgrave Hollow																								
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect											
Inhalation	2500	1.0E-02	5.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	3.3E+00	No	Yes										
	3000	5.0E-03	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.6E+00	No	Yes										
	4500	2.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	6.6E-01	No	No										
	6000	1.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	3.3E-01	No	No										
	9500	5.0E-04	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.6E-01	No	No										
	16500	2.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	6.6E-02	No	No										
	26500	1.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	3.3E-02	No	No										
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																								
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																								
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect											
Ingestion	6500	1.1E-05	1.7E-05	17.5	22	16	1600	1.09	1.4E-02	9.6E-06	1.3E-03	No	No											
	8500	5.3E-06	8.6E-06	17.5	22	16	1600	1.09	1.4E-02	4.8E-06	6.3E-04	No	No											
	14500	2.1E-06	3.4E-06	17.5	22	16	1600	1.09	1.4E-02	1.9E-06	2.5E-04	No	No											
	22000	1.1E-06	1.7E-06	17.5	22	16	1600	1.09	1.4E-02	9.6E-07	1.3E-04	No	No											
	35500	5.3E-07	8.6E-07	17.5	22	16	1600	1.09	1.4E-02	4.8E-07	6.3E-05	No	No											
	50000+	2.1E-07	3.4E-07	17.5	22	16	1600	1.09	1.4E-02	1.9E-07	2.5E-05	No	No											
50000++	1.1E-07	1.7E-07	17.5	22	16	1600	1.09	1.4E-02	9.6E-08	1.3E-05	No	No												
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																								
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																								
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect											
Dermal Absorption	6500	1.0E-02	0.0017	3.3E-05	2	216	160	0.13	1.4E+00	8.0E-02	2.5E-05	No	No											
	8500	5.0E-03	0.0017	1.7E-05	2	216	160	0.13	1.4E+00	4.0E-02	1.2E-05	No	No											
	14500	2.0E-03	0.0017	6.7E-06	2	216	160	0.13	1.4E+00	1.6E-02	5.0E-06	No	No											
	22000	1.0E-03	0.0017	3.3E-06	2	216	160	0.13	1.4E+00	8.0E-03	2.5E-06	No	No											
	35500	5.0E-04	0.0017	1.7E-06	2	216	160	0.13	1.4E+00	4.0E-03	1.2E-06	No	No											
	50000+	2.0E-04	0.0017	6.7E-07	2	216	160	0.13	1.4E+00	1.6E-03	5.0E-07	No	No											
50000++	1.0E-04	0.0017	3.3E-07	2	216	160	0.13	1.4E+00	8.0E-04	2.5E-07	No	No												
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																								
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																								

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	5.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	3.3E+00	No	Yes
	4000	5.0E-03	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.6E+00	No	Yes
	7000	2.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	6.6E-01	No	No
	10000	1.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	3.3E-01	No	No
	16000	5.0E-04	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.6E-01	No	No
	30000	2.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	6.6E-02	No	No
50000	1.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	3.3E-02	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	1.1E-05	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	1.3E-03	No	No
	10000	5.3E-06	8.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-04	No	No
	18000	2.1E-06	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-04	No	No
	30000	1.1E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	1.3E-04	No	No
	50000	5.3E-07	8.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-05	No	No
	50000+	2.1E-07	3.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-05	No	No
50000++	1.1E-07	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	1.3E-05	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	1.7E-03	3.3E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	2.5E-05	No	No
	10000	5.0E-03	1.7E-03	1.7E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	1.2E-05	No	No
	18000	2.0E-03	1.7E-03	6.7E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	5.0E-06	No	No
	30000	1.0E-03	1.7E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	2.5E-06	No	No
	50000	5.0E-04	1.7E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	1.2E-06	No	No
	50000+	2.0E-04	1.7E-03	6.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	5.0E-07	No	No
50000++	1.0E-04	1.7E-03	3.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	2.5E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	2.8E-07	80	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-03	1.6E+00	No	Yes
5000	5.0E-03	1.3E-07	80	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-03	8.2E-01	No	No
6000	2.0E-03	5.1E-08	80	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-04	3.3E-01	No	No
7500	1.0E-03	2.6E-08	80	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-04	1.6E-01	No	No
5000	5.0E-04	1.3E-08	80	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-04	8.2E-02	No	No
7000	2.0E-04	5.1E-09	80	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-05	3.3E-02	No	No
9000	1.0E-04	2.6E-09	80	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-05	1.6E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Diner et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	1.1E-05	8.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	6.3E-04	No	No
5000	5.3E-06	4.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	3.1E-04	No	No
6000	2.1E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.3E-04	No	No
7500	1.1E-06	8.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	6.3E-05	No	No
9500	5.3E-07	4.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.1E-05	No	No
14500	2.1E-07	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.3E-05	No	No
20000	1.1E-07	8.6E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	6.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	1.7E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
5000	5.0E-03	8.4E-04	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	6.2E-06	No	No
6000	2.0E-03	3.3E-04	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	2.5E-06	No	No
7500	1.0E-03	1.7E-04	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
9500	5.0E-04	8.4E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	6.2E-07	No	No
14500	2.0E-04	3.3E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	2.5E-07	No	No
20000	1.0E-04	1.7E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)													
	2500	1.0E-02	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.6E+00	No	Yes
	3000	5.0E-03	1.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	8.2E-01	No	No
	4500	2.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.3E-01	No	No
	6000	1.0E-03	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.6E-01	No	No
	9500	5.0E-04	1.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	8.2E-02	No	No
	16500	2.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.3E-02	No	No
Ingestion	Distance (m)													
	6500	1.1E-05	8.6E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-06	6.3E-04	No	No
	8500	5.3E-06	4.3E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-06	3.1E-04	No	No
	14500	2.1E-06	1.7E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-06	1.3E-04	No	No
	22000	1.1E-06	8.6E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-07	6.3E-05	No	No
	35500	5.3E-07	4.3E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-07	3.1E-05	No	No
	50000+	2.1E-07	1.7E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-07	1.3E-05	No	No
Dermal Absorption	Distance (m)													
	6500	1.0E-02	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
	8500	5.0E-03	8.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.2E-06	No	No
	14500	2.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.5E-06	No	No
	22000	1.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
	35500	5.0E-04	8.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.2E-07	No	No
	50000+	2.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990	Distance (m)													
	6500	1.0E-02	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
	8500	5.0E-03	8.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.2E-06	No	No
	14500	2.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.5E-06	No	No
	22000	1.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
	35500	5.0E-04	8.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.2E-07	No	No
	50000+	2.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category D

Green frog risk, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	2.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.6E+00	No	Yes
	4000	5.0E-03	1.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	8.2E-01	No	No
	7000	2.0E-03	5.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.3E-01	No	No
	10000	1.0E-03	2.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.6E-01	No	No
	16000	5.0E-04	1.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	8.2E-02	No	No
	30000	2.0E-04	5.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.3E-02	No	No
50000	1.0E-04	2.6E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.6E-02	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	1.1E-05	8.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	6.3E-04	No	No
	10000	5.3E-06	4.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	3.1E-04	No	No
	18000	2.1E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.3E-04	No	No
	30000	1.1E-06	8.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	6.3E-05	No	No
	50000	5.3E-07	4.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.1E-05	No	No
	50000+	2.1E-07	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.3E-05	No	No
50000++	1.1E-07	8.6E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	6.3E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
	10000	5.0E-03	8.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.2E-06	No	No
	18000	2.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.5E-06	No	No
	30000	1.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
	50000	5.0E-04	8.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.2E-07	No	No
	50000+	2.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.5E-07	No	No
50000++	1.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)												
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Base Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation												
4000	1.0E-02	3.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E+00	No
5000	5.0E-03	1.6E-07	80	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.0E+00	No
6000	2.0E-03	6.4E-08	80	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.1E-01	No
7000	1.0E-03	3.2E-08	80	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-01	No
8000	5.0E-04	1.6E-08	80	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.0E-01	No
9000	2.0E-04	6.4E-09	80	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.1E-02	No
	1.0E-04	3.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987												
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992												
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion												
4000	1.1E-05	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	7.8E-04	No
5000	5.3E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	3.9E-04	No
6000	2.1E-06	2.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.6E-04	No
7500	1.1E-06	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	7.8E-05	No
9500	5.3E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.9E-05	No
14500	2.1E-07	2.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.6E-05	No
20000	1.1E-07	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	7.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958												
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989												
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption												
4000	1.0E-02	2.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.5E-05	No
5000	5.0E-03	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.7E-06	No
6000	2.0E-03	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-06	No
7500	1.0E-03	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.5E-06	No
9500	5.0E-04	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.7E-07	No
14500	2.0E-04	4.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-07	No
20000	1.0E-04	2.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990												
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989												

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E+00	No
	3000	5.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.0E+00	No
	3000	2.0E-03	6.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.1E-01	No
	4500	1.0E-03	3.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-01	No
	6500	5.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.0E-01	No
	9500	2.0E-04	6.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.1E-02	No
	14000	1.0E-04	3.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	1.1E-05	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-06	7.8E-04	No
	4000	5.3E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	3.9E-04	No
	5000	2.1E-06	2.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.6E-04	No
	8500	1.1E-06	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	7.8E-05	No
	12000	5.3E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.9E-05	No
	24000	2.1E-07	2.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.6E-05	No
	40000	1.1E-07	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	7.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	1.7E-03	2.1E-05	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.5E-05	No
	4000	5.0E-03	1.7E-03	1.0E-05	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.7E-06	No
	5000	2.0E-03	1.7E-03	4.2E-06	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-06	No
	8500	1.0E-03	1.7E-03	2.1E-06	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.5E-06	No
	12000	5.0E-04	1.7E-03	1.0E-06	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.7E-07	No
	24000	2.0E-04	1.7E-03	4.2E-07	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-07	No
	40000	1.0E-04	1.7E-03	2.1E-07	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	3.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E+00	No	Yes
	3000	5.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.0E+00	No	Yes
	4500	2.0E-03	6.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.1E-01	No	No
	6000	1.0E-03	3.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-01	No	No
	9500	5.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.0E-01	No	No
	16500	2.0E-04	6.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.1E-02	No	No
	26500	1.0E-04	3.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992														
Ingestion	6500	1.1E-05	1.1E-05	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-06	7.8E-04	No	No
	8500	5.3E-06	5.4E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-06	3.9E-04	No	No
	14500	2.1E-06	2.2E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-06	1.6E-04	No	No
	22000	1.1E-06	1.1E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-07	7.8E-05	No	No
	35500	5.3E-07	5.4E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-07	3.9E-05	No	No
	50000+	2.1E-07	2.2E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-07	1.6E-05	No	No
	50000++	1.1E-07	1.1E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-08	7.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	6500	1.0E-02	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.5E-05	No	No
	8500	5.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.7E-06	No	No
	14500	2.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-06	No	No
	22000	1.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.5E-06	No	No
	35500	5.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.7E-07	No	No
	50000+	2.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-07	No	No
	50000++	1.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	3.2E-07	60	0.1	16	160	3.75	6.3E-04	1.8E-07	2.7E-03	2.0E+00	No	Yes
	4000	5.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	1.8E-07	1.3E-03	1.0E+00	No	Yes
	7000	2.0E-03	6.4E-08	60	0.1	16	160	3.75	6.3E-04	1.8E-07	5.3E-04	4.1E-01	No	No
	10000	1.0E-03	3.2E-08	60	0.1	16	160	3.75	6.3E-04	1.8E-07	2.7E-04	2.0E-01	No	No
	16000	5.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	1.8E-07	1.3E-04	1.0E-01	No	No
	30000	2.0E-04	6.4E-09	60	0.1	16	160	3.75	6.3E-04	1.8E-07	5.3E-05	4.1E-02	No	No
	50000	1.0E-04	3.2E-09	60	0.1	16	160	3.75	6.3E-04	1.8E-07	2.7E-05	2.0E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	1.1E-05	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	7.8E-04	No	No
	10000	5.3E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-08	3.9E-04	No	No
	18000	2.2E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-08	1.6E-04	No	No
	30000	1.1E-06	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	7.8E-05	No	No
	50000	5.3E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.9E-05	No	No
	50000+	2.2E-07	2.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.6E-05	No	No
	50000++	1.1E-07	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	7.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	1.7E-03	2.1E-05	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.5E-05	No	No
	10000	5.0E-03	1.7E-03	1.0E-05	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.7E-06	No	No
	18000	2.0E-03	1.7E-03	4.2E-06	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-06	No	No
	30000	1.0E-03	1.7E-03	2.1E-06	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.5E-06	No	No
	50000	5.0E-04	1.7E-03	1.0E-06	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.7E-07	No	No
	50000+	2.0E-04	1.7E-03	4.2E-07	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-07	No	No
	50000++	1.0E-04	1.7E-03	2.1E-07	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category B

Green frog risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	3000	1.0E-02	3.8E-07	60	0.1	16	160	3.75	6.3E-04
	3000	5.0E-03	1.9E-07	60	0.1	16	160	3.75	6.3E-04
	3000	2.0E-03	7.7E-08	60	0.1	16	160	3.75	6.3E-04
	4500	1.0E-03	3.8E-08	60	0.1	16	160	3.75	6.3E-04
	6500	5.0E-04	1.9E-08	60	0.1	16	160	3.75	6.3E-04
	9500	2.0E-04	7.7E-09	60	0.1	16	160	3.75	6.3E-04
	14000	1.0E-04	3.8E-09	60	0.1	16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
	3000	1.1E-05	1.3E-05	17.6	22	16	1600	1.10	1.4E-02
	4000	5.3E-06	6.5E-06	17.6	22	16	1600	1.10	1.4E-02
	5000	2.1E-06	2.6E-06	17.6	22	16	1600	1.10	1.4E-02
	6500	1.1E-06	1.3E-06	17.6	22	16	1600	1.10	1.4E-02
	12000	5.3E-07	6.5E-07	17.6	22	16	1600	1.10	1.4E-02
	24000	2.1E-07	2.6E-07	17.6	22	16	1600	1.10	1.4E-02
	40000	1.1E-07	1.3E-07	17.6	22	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	3000	1.0E-02	2.5E-05	2	216	16	160	0.13	1.4E+00
	4000	5.0E-03	1.3E-05	2	216	16	160	0.13	1.4E+00
	5000	2.0E-03	5.0E-06	2	216	16	160	0.13	1.4E+00
	6500	1.0E-03	2.5E-06	2	216	16	160	0.13	1.4E+00
	12000	5.0E-04	1.3E-06	2	216	16	160	0.13	1.4E+00
	24000	2.0E-04	5.0E-07	2	216	16	160	0.13	1.4E+00
	40000	1.0E-04	2.5E-07	2	216	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Green frog risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	2500	1.0E-02	3.9E-07	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-03	2.5E+00	No
	3000	5.0E-03	1.9E-07	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	4500	2.0E-03	7.7E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-04	4.9E-01	No
	6000	1.0E-03	3.9E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-04	2.5E-01	No
	9500	5.0E-04	1.9E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	16500	2.0E-04	7.7E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-05	4.9E-02	No
	26500	1.0E-04	3.9E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-05	2.5E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	6500	1.1E-05	1.3E-05	17.5	22	16	16	1.09	1.4E-02	1.4E-02	9.8E-06	9.4E-04	No
	8500	5.3E-06	6.5E-06	17.5	22	16	16	1.09	1.4E-02	1.4E-02	4.8E-06	4.7E-04	No
	14500	2.1E-06	2.6E-06	17.5	22	16	16	1.09	1.4E-02	1.4E-02	1.9E-06	1.9E-04	No
	22000	1.1E-06	1.3E-06	17.5	22	16	16	1.09	1.4E-02	1.4E-02	9.8E-07	9.4E-05	No
	35500	5.3E-07	6.5E-07	17.5	22	16	16	1.09	1.4E-02	1.4E-02	4.8E-07	4.7E-05	No
	50000+	2.1E-07	2.6E-07	17.5	22	16	16	1.09	1.4E-02	1.4E-02	1.9E-07	1.9E-05	No
	50000++	1.1E-07	1.3E-07	17.5	22	16	16	1.09	1.4E-02	1.4E-02	9.8E-08	9.4E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	6500	1.0E-02	2.5E-05	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-02	1.9E-05	No
	8500	5.0E-03	1.3E-05	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-02	9.3E-06	No
	14500	2.0E-03	5.0E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-02	3.7E-06	No
	22000	1.0E-03	2.5E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-03	1.9E-06	No
	35500	5.0E-04	1.3E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-03	9.3E-07	No
	50000+	2.0E-04	5.0E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-03	3.7E-07	No
	50000++	1.0E-04	2.5E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-04	1.9E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.9E-07	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-03	2.5E+00	No
	4000	5.0E-03	1.9E-07	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	7000	2.0E-03	7.7E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-04	4.9E-01	No
	10000	1.0E-03	3.9E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-04	2.5E-01	No
	16000	5.0E-04	1.9E-08	60	0.1	16	16	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	30000	2.0E-04	7.7E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	5.3E-05	4.9E-02	No
	50000	1.0E-04	3.9E-09	60	0.1	16	16	3.75	6.3E-04	1.6E-07	2.7E-05	2.5E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	1.1E-05	1.3E-05	17.6	22	16	16	1.10	1.4E-02	1.4E-02	9.6E-06	9.4E-04	No
	10000	5.3E-06	6.5E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	4.8E-06	4.7E-04	No
	18000	2.1E-06	2.8E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	1.9E-06	1.9E-04	No
	30000	1.1E-06	1.3E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	9.6E-07	9.4E-05	No
	50000	5.3E-07	6.5E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	4.8E-07	4.7E-05	No
	50000++	2.1E-07	2.8E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	1.9E-07	1.9E-05	No
	50000++	1.1E-07	1.3E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	9.6E-08	9.4E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	2.5E-05	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-02	1.9E-05	No
	10000	5.0E-03	1.3E-05	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-02	9.3E-06	No
	18000	2.0E-03	5.0E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-02	3.7E-06	No
	30000	1.0E-03	2.5E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-03	1.9E-06	No
	50000	5.0E-04	1.3E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-03	9.3E-07	No
	50000++	2.0E-04	5.0E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-03	3.7E-07	No
	50000++	1.0E-04	2.5E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-04	1.9E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Operationally Preferred Training Method

Green frog risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	3.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E-01	No	No
	4000	5.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	9.9E-02	No	No
	5000	2.0E-03	6.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.0E-02	No	No
	5000	1.0E-03	3.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-02	No	No
	6000	5.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	9.9E-03	No	No
	8000	2.0E-04	6.2E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.0E-03	No	No
	12000	1.0E-04	3.1E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	4000	1.1E-05	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-06	1.3E-04	No	No
	5000	5.3E-06	8.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.9E-06	6.3E-05	No	No
	6000	2.1E-06	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-05	No	No
	7000	1.1E-06	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-07	1.3E-05	No	No
	9500	5.3E-07	8.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.9E-07	6.3E-06	No	No
	14000	2.1E-07	3.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-06	No	No
	20000	1.1E-07	1.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-08	1.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	4000	1.0E-02	3.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-06	No	No
	5000	5.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-06	No	No
	6000	2.0E-03	8.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.0E-07	No	No
	7000	1.0E-03	3.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-07	No	No
	9500	5.0E-04	1.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-07	No	No
	14000	2.0E-04	8.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.0E-08	No	No
	20000	1.0E-04	3.4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	3.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E-01	No	No
	3500	5.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	9.9E-02	No	No
	4000	2.0E-03	6.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.0E-02	No	No
	5500	1.0E-03	3.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-02	No	No
	7500	5.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	9.9E-03	No	No
	12000	2.0E-04	6.2E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.0E-03	No	No
	18500	1.0E-04	3.1E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	3500	1.1E-05	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-06	1.3E-04	No	No
	4000	5.3E-06	8.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-05	No	No
	5500	2.1E-06	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-05	No	No
	8000	1.1E-06	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	1.3E-05	No	No
	12000	5.3E-07	8.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-06	No	No
	24000	2.1E-07	3.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-06	No	No
	40000	1.1E-07	1.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	1.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	3500	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-06	No	No
	4000	5.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-06	No	No
	5500	2.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.0E-07	No	No
	8000	1.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-07	No	No
	12000	5.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-07	No	No
	24000	2.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.0E-08	No	No
	40000	1.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	3.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E-01	No	No
	4500	5.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	9.9E-02	No	No
	6500	2.0E-03	6.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.0E-02	No	No
	8500	1.0E-03	3.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-02	No	No
	12500	5.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	9.9E-03	No	No
	22500	2.0E-04	6.2E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.0E-03	No	No
	35500	1.0E-04	3.1E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	6500	1.1E-05	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	1.3E-04	No	No
	8500	5.3E-06	8.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-05	No	No
	14000	2.1E-06	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-05	No	No
	22000	1.1E-06	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	1.3E-05	No	No
	35500	5.3E-07	8.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-06	No	No
	50000+	2.1E-07	3.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-06	No	No
	50000++	1.1E-07	1.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	1.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	6500	1.0E-02	3.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-06	No	No
	8500	5.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-06	No	No
	14000	2.0E-03	6.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	5.0E-07	No	No
	22000	1.0E-03	3.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-07	No	No
	35500	5.0E-04	1.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-07	No	No
	50000+	2.0E-04	6.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	5.0E-08	No	No
	50000++	1.0E-04	3.4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category D

Green frog risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	3.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.0E-01	No	No
	5000	1.5E-08	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	9.9E-02	No	No
	9000	2.0E-03	6.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.0E-02	No	No
	14000	1.0E-03	3.1E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.0E-02	No	No
	24000	5.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	9.9E-03	No	No
	50000	2.0E-04	6.2E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.0E-03	No	No
	50000+	1.0E-04	3.1E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	7500	1.1E-05	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-06	1.3E-04	No	No
	10000	5.9E-06	8.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	6.3E-05	No	No
	18000	2.1E-06	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	2.5E-05	No	No
	30000	1.1E-06	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-07	1.3E-05	No	No
	50000	5.9E-07	8.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	6.3E-06	No	No
	50000+	2.1E-07	3.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	2.5E-06	No	No
	50000++	1.1E-07	1.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.9E-08	1.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	7500	1.0E-02	3.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.5E-06	No	No
	10000	5.0E-03	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-06	No	No
	18000	2.0E-03	6.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.0E-07	No	No
	30000	1.0E-03	3.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.5E-07	No	No
	50000	5.0E-04	1.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-07	No	No
	50000+	2.0E-04	6.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.0E-08	No	No
	50000++	1.0E-04	3.4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	4000	1.0E-02	3.7E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.4E+00	No
	4000	5.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	4000	2.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.7E-01	No
	5000	1.0E-03	3.7E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.4E-01	No
	5000	5.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	7000	2.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.7E-02	No
	9000	1.0E-04	3.7E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.4E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	4000	1.1E-05	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	9.0E-04	No
	5000	5.3E-06	6.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	4.5E-04	No
	6000	2.1E-06	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.8E-04	No
	7500	1.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	9.0E-05	No
	9500	5.3E-07	6.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	4.5E-05	No
	14500	2.1E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.8E-05	No
	20000	1.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	9.0E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	4000	1.0E-02	2.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.8E-05	No
	5000	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.9E-06	No
	6000	2.0E-03	4.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.6E-06	No
	7500	1.0E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.8E-06	No
	9500	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.9E-07	No
	14500	2.0E-04	4.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.6E-07	No
	20000	1.0E-04	2.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.8E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.7E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.4E+00	No
	3000	5.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	3000	2.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.7E-01	No
	4500	1.0E-03	3.7E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.4E-01	No
	6500	5.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	9500	2.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.7E-02	No
	14000	1.0E-04	3.7E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.4E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	1.1E-05	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-05	9.0E-04	No
	4000	5.3E-06	6.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	4.5E-04	No
	5000	2.1E-06	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.8E-04	No
	8500	1.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	9.0E-05	No
	12000	5.3E-07	6.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	4.5E-05	No
	24000	2.1E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.8E-05	No
	40000	1.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	9.0E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.8E-05	No
	4000	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.9E-06	No
	5000	2.0E-03	4.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.6E-06	No
	8500	1.0E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.8E-06	No
	12000	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.9E-07	No
	24000	2.0E-04	4.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.6E-07	No
	40000	1.0E-04	2.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.8E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	2500	1.0E-02	3.7E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.4E+00	No
	3000	5.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	4500	2.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.7E-01	No
	6000	1.0E-03	3.7E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.4E-01	No
	9500	5.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	16500	2.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.7E-02	No
	26500	1.0E-04	3.7E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.4E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	6500	1.1E-05	1.2E-05	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-06	9.0E-04	No
	8500	5.3E-06	6.2E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-06	4.5E-04	No
	14500	2.1E-06	2.5E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-06	1.8E-04	No
	22000	1.1E-06	1.2E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-07	9.0E-05	No
	35500	5.3E-07	6.2E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-07	4.5E-05	No
	50000+	2.1E-07	2.5E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-07	1.8E-05	No
	50000++	1.1E-07	1.2E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-08	9.0E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	6500	1.0E-02	2.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.8E-05	No
	8500	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.9E-06	No
	14500	2.0E-03	4.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.6E-06	No
	22000	1.0E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.8E-06	No
	35500	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.9E-07	No
	50000+	2.0E-04	4.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.6E-07	No
	50000++	1.0E-04	2.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.8E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.7E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.4E+00	No
	4000	5.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.2E+00	No
	7000	2.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	4.7E-01	No
	10000	1.0E-03	3.7E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.4E-01	No
	16000	5.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.2E-01	No
	30000	2.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	4.7E-02	No
	50000	1.0E-04	3.7E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.4E-02	No
*Acute critical effect is oil pneumonia Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	1.1E-05	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	9.0E-04	No
	10000	5.3E-06	6.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	4.5E-04	No
	18000	2.1E-06	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.8E-04	No
	30000	1.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	9.0E-05	No
	50000	5.3E-07	6.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	4.5E-05	No
	50000+	2.1E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.8E-05	No
	50000++	1.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	9.0E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney Critical Study: Bramechani 1958													
**Chronic critical effect is gastrointestinal irritation Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.8E-05	No
	10000	5.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.9E-06	No
	18000	2.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.6E-06	No
	30000	1.0E-03	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.8E-06	No
	50000	5.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.9E-07	No
	50000+	2.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.6E-07	No
	50000++	1.0E-04	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.8E-07	No
*Acute critical effect is slight to moderate skin irritation Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)												
Inhalation													
4000	1.0E-02	1.8E-07	80	0.1	16	180	3.75	6.3E-04	1.8E-07	2.7E-03	1.2E+00	No	Yes
5000	5.0E-03	9.2E-08	60	0.1	16	180	3.75	6.3E-04	1.8E-07	1.3E-03	5.9E-01	No	No
6000	2.0E-03	3.7E-08	60	0.1	16	180	3.75	6.3E-04	1.8E-07	5.3E-04	2.4E-01	No	No
7000	1.0E-03	1.8E-08	60	0.1	16	180	3.75	6.3E-04	1.8E-07	2.7E-04	1.2E-01	No	No
8000	5.0E-04	9.2E-09	60	0.1	16	180	3.75	6.3E-04	1.8E-07	1.3E-04	5.9E-02	No	No
9000	2.0E-04	3.7E-09	60	0.1	16	180	3.75	6.3E-04	1.8E-07	5.3E-05	2.4E-02	No	No
	1.0E-04	1.8E-09	60	0.1	16	180	3.75	6.3E-04	1.8E-07	2.7E-05	1.2E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	1.1E-05	6.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	4.5E-04	No	No
5000	5.3E-06	3.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.3E-04	No	No
6000	2.1E-06	1.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.8E-06	9.0E-05	No	No
7000	1.1E-06	6.2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	4.5E-05	No	No
8000	5.3E-07	3.1E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.3E-05	No	No
9000	2.1E-07	1.2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.8E-07	9.0E-06	No	No
14500	1.1E-07	6.2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	4.5E-06	No	No
20000													
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	1.7E-03	1.2E-05	2	216	16	180	0.13	1.4E+00	8.0E-02	8.9E-08	No	No
5000	5.0E-03	1.7E-03	6.0E-06	2	216	16	180	0.13	1.4E+00	4.0E-02	4.5E-08	No	No
6000	2.0E-03	1.7E-03	2.4E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	1.8E-08	No	No
7000	1.0E-03	1.7E-03	1.2E-06	2	216	16	180	0.13	1.4E+00	8.0E-03	8.9E-07	No	No
8000	5.0E-04	1.7E-03	6.0E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	4.5E-07	No	No
9000	2.0E-04	1.7E-03	2.4E-07	2	216	16	180	0.13	1.4E+00	1.6E-03	1.8E-07	No	No
14500	1.0E-04	1.7E-03	1.2E-07	2	216	16	180	0.13	1.4E+00	8.0E-04	8.9E-08	No	No
20000													
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ²)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)	2500	1.0E-02	1.8E-07	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.2E+00	No	Yes
		3000	5.0E-03	9.2E-08	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	5.9E-01	No	No
		4500	2.0E-03	3.7E-08	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	2.4E-01	No	No
		6000	1.0E-03	1.8E-08	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.2E-01	No	No
		9500	5.0E-04	9.2E-09	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	5.9E-02	No	No
		16500	2.0E-04	3.7E-09	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	2.4E-02	No	No
		26500	1.0E-04	1.8E-09	60	0.1	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.2E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																
Ingestion	Distance (m)	6500	1.1E-05	6.2E-06	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-06	4.5E-04	No	No
		8500	5.3E-06	3.1E-06	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-06	2.3E-04	No	No
		14500	2.1E-06	1.2E-06	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-06	9.0E-05	No	No
		22000	1.1E-06	6.2E-07	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-07	4.5E-05	No	No
		35500	5.3E-07	3.1E-07	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-07	2.3E-05	No	No
		50000+	2.1E-07	1.2E-07	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-07	9.0E-06	No	No
		50000++	1.1E-07	6.2E-08	17.5	22	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-08	4.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																
Dermal Absorption	Distance (m)	6500	1.0E-02	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.9E-06	No	No
		8500	5.0E-03	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.5E-06	No	No
		14500	2.0E-03	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.8E-06	No	No
		22000	1.0E-03	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.9E-07	No	No
		35500	5.0E-04	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.5E-07	No	No
		50000+	2.0E-04	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.8E-07	No	No
		50000++	1.0E-04	0.0017	2	216	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Pasquill Category D

Green frog risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.2E+00	No
	4000	5.0E-03	9.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	5.9E-01	No
	7000	2.0E-03	3.7E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	2.4E-01	No
	10000	1.0E-03	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.2E-01	No
	16000	5.0E-04	9.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	5.9E-02	No
	30000	2.0E-04	3.7E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	2.4E-02	No
	50000	1.0E-04	1.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.2E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	1.1E-05	6.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	4.5E-04	No
	10000	5.3E-06	3.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.3E-04	No
	18000	2.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	9.0E-05	No
	30000	1.1E-06	6.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	4.5E-05	No
	50000	5.3E-07	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.3E-05	No
	50000+	2.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	9.0E-06	No
	50000++	1.1E-07	6.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	4.5E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.9E-06	No
	10000	5.0E-03	6.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.5E-06	No
	18000	2.0E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.8E-06	No
	30000	1.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.9E-07	No
	50000	5.0E-04	6.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.5E-07	No
	50000+	2.0E-04	2.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.8E-07	No
	50000++	1.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.9E-08	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)															
	Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/m ³)												
Inhalation	4000	1.0E-02		2.3E-07	60	0.1	16	160	3.75	6.3E-04	1.0E-07	2.7E-03	1.5E+00	No	Yes
	4000	5.0E-03		1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.0E-07	1.3E-03	7.4E-01	No	No
	4000	2.0E-03		4.6E-08	60	0.1	16	160	3.75	6.3E-04	1.0E-07	5.3E-04	3.0E-01	No	No
	5000	1.0E-03		2.3E-08	60	0.1	16	160	3.75	6.3E-04	1.0E-07	2.7E-04	1.5E-01	No	No
	5000	5.0E-04		1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.0E-07	1.3E-04	7.4E-02	No	No
	7000	2.0E-04		4.6E-09	60	0.1	16	160	3.75	6.3E-04	1.0E-07	5.3E-05	3.0E-02	No	No
	9000	1.0E-04		2.3E-09	60	0.1	16	160	3.75	6.3E-04	1.0E-07	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992															
	Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/m ³)													
Ingestion	4000	1.1E-05		7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-06	5.6E-04	No	No
	5000	5.3E-06		3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.8E-04	No	No
	6000	2.1E-06		1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.1E-04	No	No
	7500	1.1E-06		7.8E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	9.8E-07	5.6E-05	No	No
	9500	5.3E-07		3.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.8E-05	No	No
	14500	2.1E-07		1.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.1E-05	No	No
	20000	1.1E-07		7.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	5.6E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermaally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.7E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-05	No	No
	5000	5.0E-03	1.7E-03	7.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.6E-06	No	No
	6000	2.0E-03	1.7E-03	3.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.2E-06	No	No
	7500	1.0E-03	1.7E-03	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-06	No	No
	9500	5.0E-04	1.7E-03	7.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.6E-07	No	No
	14500	2.0E-04	1.7E-03	3.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.2E-07	No	No
	20000	1.0E-04	1.7E-03	1.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.3E-07	60	0.1	18	18	180	3.75	1.8E-07	2.7E-03	1.5E+00	No	Yes
3000	5.0E-03	1.2E-07	60	0.1	18	18	180	3.75	1.8E-07	1.3E-03	7.4E-01	No	No
3000	2.0E-03	4.6E-08	60	0.1	18	18	180	3.75	1.8E-07	5.3E-04	3.0E-01	No	No
4500	1.0E-03	2.3E-08	60	0.1	18	18	180	3.75	1.8E-07	2.7E-04	1.5E-01	No	No
6500	5.0E-04	1.2E-08	60	0.1	18	18	180	3.75	1.8E-07	1.3E-04	7.4E-02	No	No
9500	2.0E-04	4.6E-09	60	0.1	18	18	180	3.75	1.8E-07	5.3E-05	3.0E-02	No	No
14000	1.0E-04	2.3E-09	60	0.1	18	18	180	3.75	1.8E-07	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	1.1E-05	7.8E-06	17.6	22	18	18	1800	1.10	1.4E-02	9.6E-08	5.8E-04	No	No
4000	5.3E-06	3.9E-06	17.6	22	18	18	1800	1.10	1.4E-02	4.8E-08	2.8E-04	No	No
5000	2.1E-06	1.6E-06	17.6	22	18	18	1800	1.10	1.4E-02	1.9E-08	1.1E-04	No	No
8500	1.1E-06	7.8E-07	17.6	22	18	18	1800	1.10	1.4E-02	9.6E-07	5.8E-05	No	No
12000	5.3E-07	3.9E-07	17.6	22	18	18	1800	1.10	1.4E-02	4.8E-07	2.8E-05	No	No
24000	2.1E-07	1.6E-07	17.6	22	18	18	1800	1.10	1.4E-02	1.9E-07	1.1E-05	No	No
40000	1.1E-07	7.8E-08	17.6	22	18	18	1800	1.10	1.4E-02	9.6E-08	5.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.5E-03	2	216	18	18	180	0.13	1.4E+00	6.0E-02	1.1E-05	No	No
4000	5.0E-03	7.5E-04	2	216	18	18	180	0.13	1.4E+00	4.0E-02	5.8E-06	No	No
5000	2.0E-03	3.0E-04	2	216	18	18	180	0.13	1.4E+00	1.6E-02	2.2E-06	No	No
8500	1.0E-03	1.5E-04	2	216	18	18	180	0.13	1.4E+00	8.0E-03	1.1E-06	No	No
12000	5.0E-04	7.5E-05	2	216	18	18	180	0.13	1.4E+00	4.0E-03	5.8E-07	No	No
24000	2.0E-04	3.0E-05	2	216	18	18	180	0.13	1.4E+00	1.6E-03	2.2E-07	No	No
40000	1.0E-04	1.5E-05	2	216	18	18	180	0.13	1.4E+00	8.0E-04	1.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	2500	1.0E-02	2.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.5E+00	No	Yes
	3000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	7.4E-01	No	No
	4500	2.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.0E-01	No	No
	6000	1.0E-03	2.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.5E-01	No	No
	8500	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	7.4E-02	No	No
	18500	2.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.0E-02	No	No
	28500	1.0E-04	2.3E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion														
	6500	1.1E-05	7.8E-06	17.5	22	16	1600	1.09	1.4E-02	9.6E-08	5.6E-04	No	No	No
	8500	5.3E-06	3.9E-06	17.5	22	16	1800	1.09	1.4E-02	4.8E-08	2.8E-04	No	No	No
	14500	2.1E-06	1.6E-06	17.5	22	16	1800	1.09	1.4E-02	1.9E-08	1.1E-04	No	No	No
	22000	1.1E-06	7.8E-07	17.5	22	16	1800	1.09	1.4E-02	9.6E-07	5.6E-05	No	No	No
	35500	5.3E-07	3.9E-07	17.5	22	16	1800	1.09	1.4E-02	4.8E-07	2.8E-05	No	No	No
	50000+	2.1E-07	1.6E-07	17.5	22	16	1800	1.09	1.4E-02	1.9E-07	1.1E-05	No	No	No
	50000++	1.1E-07	7.8E-08	17.5	22	16	1800	1.09	1.4E-02	9.6E-08	5.6E-06	No	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	6500	1.0E-02	0.0017	2	216	16	160	0.13	1.4E+00	8.0E-02	1.1E-05	No	No	No
	8500	5.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	4.0E-02	5.6E-06	No	No	No
	14500	2.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.6E-02	2.2E-06	No	No	No
	22000	1.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	8.0E-03	1.1E-06	No	No	No
	35500	5.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	4.0E-03	5.6E-07	No	No	No
	50000+	2.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.6E-03	2.2E-07	No	No	No
	50000++	1.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	8.0E-04	1.1E-07	No	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.5E+00	No
	4000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	7.4E-01	No
	7000	2.0E-03	4.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.0E-01	No
	10000	1.0E-03	2.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.5E-01	No
	18000	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	7.4E-02	No
30000	2.0E-04	4.6E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.0E-02	No	
50000	1.0E-04	2.3E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.5E-02	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Dwyer et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	1.1E-05	7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-06	5.6E-04	No
	10000	5.3E-06	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.8E-04	No
	18000	2.1E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.1E-04	No
	30000	1.1E-06	7.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	5.6E-05	No
	50000	5.3E-07	3.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.8E-05	No
50000+	2.1E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.1E-05	No	
50000++	1.1E-07	7.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-08	5.6E-06	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.7E-03	1.5E-05	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-05	No
	10000	5.0E-03	1.7E-03	7.5E-06	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.6E-06	No
	18000	2.0E-03	1.7E-03	3.0E-06	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.2E-06	No
	30000	1.0E-03	1.7E-03	1.5E-06	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-06	No
	50000	5.0E-04	1.7E-03	7.5E-07	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.6E-07	No
50000+	2.0E-04	1.7E-03	3.0E-07	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.2E-07	No	
50000++	1.0E-04	1.7E-03	1.5E-07	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-07	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	4000	1.0E-02	2.8E-07	60	0.1	16	160	3.75	6.3E-04
	4000	5.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04
	4000	2.0E-03	5.5E-08	60	0.1	16	160	3.75	6.3E-04
	5000	1.0E-03	2.8E-08	60	0.1	16	160	3.75	6.3E-04
	5000	5.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04
	7000	2.0E-04	5.5E-09	60	0.1	16	160	3.75	6.3E-04
	9000	1.0E-04	2.8E-09	60	0.1	16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
	4000	1.1E-05	9.3E-06	17.6	22	16	1600	1.10	1.4E-02
	5000	5.3E-06	4.7E-06	17.6	22	16	1600	1.10	1.4E-02
	6000	2.1E-06	1.9E-06	17.6	22	16	1600	1.10	1.4E-02
	7500	1.1E-06	9.3E-07	17.6	22	16	1600	1.10	1.4E-02
	9500	5.3E-07	4.7E-07	17.6	22	16	1600	1.10	1.4E-02
	14500	2.1E-07	1.9E-07	17.6	22	16	1600	1.10	1.4E-02
	20000	1.1E-07	9.3E-08	17.6	22	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	4000	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00
	5000	5.0E-03	9.0E-06	2	216	16	160	0.13	1.4E+00
	6000	2.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00
	7500	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00
	9500	5.0E-04	9.0E-07	2	216	16	160	0.13	1.4E+00
	14500	2.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00
	20000	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	4000	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00
	5000	5.0E-03	9.0E-06	2	216	16	160	0.13	1.4E+00
	6000	2.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00
	7500	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00
	9500	5.0E-04	9.0E-07	2	216	16	160	0.13	1.4E+00
	14500	2.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00
	20000	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00

Pasquill Category B

Green frog risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.8E+00	No
	3000	5.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	8.9E-01	No
	3000	2.0E-03	5.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.5E-01	No
	4500	1.0E-03	2.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.8E-01	No
	6500	5.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	8.9E-02	No
	9500	2.0E-04	5.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.5E-02	No
	14000	1.0E-04	2.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.8E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	1.1E-05	9.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	6.8E-04	No
	4000	5.3E-06	4.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	3.4E-04	No
	5000	2.1E-06	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.4E-04	No
	8500	1.1E-06	9.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	6.8E-05	No
	12000	5.3E-07	4.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	3.4E-05	No
	24000	2.1E-07	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.4E-05	No
	40000	1.1E-07	9.3E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	6.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramehan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.3E-05	No
	4000	5.0E-03	9.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.7E-06	No
	5000	2.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.7E-06	No
	8500	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.3E-06	No
	12000	5.0E-04	9.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.7E-07	No
	24000	2.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.7E-07	No
	40000	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.3E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	2.8E-07	60	0.1	16		160	3.75	1.6E-07	2.7E-03	1.8E+00	No
	3000	5.0E-03	1.4E-07	60	0.1	16		160	3.75	1.6E-07	1.3E-03	8.9E-01	No
	4500	2.0E-03	5.5E-08	60	0.1	16		160	3.75	1.6E-07	5.3E-04	3.5E-01	No
	6000	1.0E-03	2.8E-08	60	0.1	16		160	3.75	1.6E-07	2.7E-04	1.8E-01	No
	9500	5.0E-04	1.4E-08	60	0.1	16		160	3.75	1.6E-07	1.3E-04	8.9E-02	No
	16500	2.0E-04	5.5E-09	60	0.1	16		160	3.75	1.6E-07	5.3E-05	3.5E-02	No
	26500	1.0E-04	2.8E-09	60	0.1	16		160	3.75	1.6E-07	2.7E-05	1.8E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	1.1E-05	9.3E-06	17.5	22	16		1600	1.09	1.4E-02	9.6E-06	6.8E-04	No
	8500	5.3E-06	4.7E-06	17.5	22	16		1600	1.09	1.4E-02	4.8E-06	3.4E-04	No
	14500	2.1E-06	1.9E-06	17.5	22	16		1600	1.09	1.4E-02	1.9E-06	1.4E-04	No
	22000	1.1E-06	9.3E-07	17.5	22	16		1600	1.09	1.4E-02	9.6E-07	6.8E-05	No
	35500	5.3E-07	4.7E-07	17.5	22	16		1600	1.09	1.4E-02	4.8E-07	3.4E-05	No
	50000+	2.1E-07	1.9E-07	17.5	22	16		1600	1.09	1.4E-02	1.9E-07	1.4E-05	No
	50000++	1.1E-07	9.3E-08	17.5	22	16		1600	1.09	1.4E-02	9.6E-08	6.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	0.0017	1.8E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	1.3E-05	No
	8500	5.0E-03	0.0017	9.0E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	6.7E-06	No
	14500	2.0E-03	0.0017	3.6E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	2.7E-06	No
	22000	1.0E-03	0.0017	1.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	1.3E-06	No
	35500	5.0E-04	0.0017	9.0E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	6.7E-07	No
	50000+	2.0E-04	0.0017	3.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	2.7E-07	No
	50000++	1.0E-04	0.0017	1.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.3E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category D

Green frog risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.8E+00	No
	4000	5.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	8.9E-01	No
	7000	2.0E-03	5.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.5E-01	No
	10000	1.0E-03	2.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.8E-01	No
	16000	5.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	8.9E-02	No
	30000	2.0E-04	5.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.5E-02	No
	50000	1.0E-04	2.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.8E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	1.1E-05	9.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	6.8E-04	No
	10000	5.3E-06	4.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.9E-06	3.4E-04	No
	18000	2.1E-06	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.4E-04	No
	30000	1.1E-06	9.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	6.8E-05	No
	50000	5.3E-07	4.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.9E-07	3.4E-05	No
	50000+	2.1E-07	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.4E-05	No
	50000++	1.1E-07	9.3E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	6.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.3E-05	No
	10000	5.0E-03	9.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.7E-06	No
	18000	2.0E-03	3.6E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.7E-06	No
	30000	1.0E-03	1.8E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.3E-06	No
	50000	5.0E-04	9.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.7E-07	No
	50000+	2.0E-04	3.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.7E-07	No
	50000++	1.0E-04	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.3E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Environmentally Preferred Training Method

Green frog risk. EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1 0E-02	4 0E-09	60	0.1	16	160	3.75	6.3E-04	1 6E-07	2 7E-03	2 6E-02	No	No
	4000	5 0E-03	2 0E-09	60	0.1	16	160	3.75	6.3E-04	1 6E-07	1 3E-03	1 3E-02	No	No
	5000	2 0E-03	8 0E-10	60	0.1	16	160	3.75	6.3E-04	1 6E-07	5 3E-04	5 1E-03	No	No
	5000	1 0E-03	4 0E-10	60	0.1	16	160	3.75	6.3E-04	1 6E-07	2 7E-04	2 6E-03	No	No
	6000	5 0E-04	2 0E-10	60	0.1	16	160	3.75	6.3E-04	1 6E-07	1 3E-04	1 3E-03	No	No
	8000	2 0E-04	8 0E-11	60	0.1	16	160	3.75	6.3E-04	1 6E-07	5 3E-05	5 1E-04	No	No
	12000	1 0E-04	4 0E-11	60	0.1	16	160	3.75	6.3E-04	1 6E-07	2 7E-05	2 6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992														
Ingestion	4000	1 1E-05	2 2E-07	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	9 6E-06	1 6E-05	No	No
	5000	5 3E-06	1 1E-07	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	4 8E-06	8 2E-06	No	No
	6000	2 1E-06	4 5E-08	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	1 9E-06	3 3E-06	No	No
	7000	1 1E-06	2 2E-08	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	9 6E-07	1 6E-06	No	No
	9500	5 3E-07	1 1E-08	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	4 8E-07	8 2E-07	No	No
	14000	2 1E-07	4 5E-09	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	1 9E-07	3 3E-07	No	No
	20000	1 1E-07	2 2E-09	17.6	22	16	1600	1.10	1.4E-02	1 4E-02	9 6E-08	1 6E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	4000	1 0E-02	4 4E-07	2	216	16	160	0.13	1.4E+00	1 4E+00	8 0E-02	3 2E-07	No	No
	5000	5 0E-03	2 2E-07	2	216	16	160	0.13	1.4E+00	1 4E+00	4 0E-02	1 6E-07	No	No
	6000	2 0E-03	8 7E-08	2	216	16	160	0.13	1.4E+00	1 4E+00	1 6E-02	6 5E-08	No	No
	7000	1 0E-03	4 4E-08	2	216	16	160	0.13	1.4E+00	1 4E+00	8 0E-03	3 2E-08	No	No
	9500	5 0E-04	2 2E-08	2	216	16	160	0.13	1.4E+00	1 4E+00	4 0E-03	1 6E-08	No	No
	14000	2 0E-04	8 7E-09	2	216	16	160	0.13	1.4E+00	1 4E+00	1 6E-03	6 5E-09	No	No
	20000	1 0E-04	4 4E-09	2	216	16	160	0.13	1.4E+00	1 4E+00	8 0E-04	3 2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1 0E-02	4 0E-09	60	0.1	16	160	3.75	6 3E-04	1 6E-07	2 7E-03	2 6E-02	No	No
	3500	5 0E-03	2 0E-09	60	0.1	16	160	3.75	6 3E-04	1 6E-07	1 3E-02	1 3E-02	No	No
	4000	2 0E-03	8 0E-10	60	0.1	16	160	3.75	6 3E-04	1 6E-07	5 3E-04	5 1E-03	No	No
	5500	1 0E-03	4 0E-10	60	0.1	16	160	3.75	6 3E-04	1 6E-07	2 7E-04	2 6E-03	No	No
	7500	5 0E-04	2 0E-10	60	0.1	16	160	3.75	6 3E-04	1 6E-07	1 3E-04	1 3E-03	No	No
	12000	2 0E-04	8 0E-11	60	0.1	16	160	3.75	6 3E-04	1 6E-07	5 3E-05	5 1E-04	No	No
	18500	1 0E-04	4 0E-11	60	0.1	16	160	3.75	6 3E-04	1 6E-07	2 7E-05	2 6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al 1987														
**Chronic critical effect are minor lesions of the heart, liver, and lungs Critical Study: Driver et al 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1 1E-05	2 2E-07	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	9 6E-06	1 6E-05	No	No
	4000	5 3E-06	1 1E-07	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	4 8E-06	8 2E-06	No	No
	5500	2 1E-06	4 5E-08	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	1 9E-06	3 3E-06	No	No
	8000	1 1E-06	2 2E-08	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	9 6E-07	1 6E-06	No	No
	12000	5 3E-07	1 1E-08	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	4 8E-07	8 2E-07	No	No
	24000	2 1E-07	4 5E-09	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	1 9E-07	3 3E-07	No	No
	40000	1 1E-07	2 2E-09	17.6	22	16	1600	1.10	1 4E-02	1 4E-02	9 6E-08	1 6E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1 0E-02	4 4E-07	2	216	16	160	0.13	1 4E+00	1 4E+00	8 0E-02	3 2E-07	No	No
	4000	5 0E-03	2 2E-07	2	216	16	160	0.13	1 4E+00	1 4E+00	4 0E-02	1 6E-07	No	No
	5500	2 0E-03	8 7E-08	2	216	16	160	0.13	1 4E+00	1 4E+00	1 6E-02	6 5E-08	No	No
	8000	1 0E-03	4 4E-08	2	216	16	160	0.13	1 4E+00	1 4E+00	8 0E-03	3 2E-08	No	No
	12000	5 0E-04	2 2E-08	2	216	16	160	0.13	1 4E+00	1 4E+00	4 0E-03	1 6E-08	No	No
	24000	2 0E-04	6 7E-09	2	216	16	160	0.13	1 4E+00	1 4E+00	1 6E-03	6 5E-09	No	No
	40000	1 0E-04	4 4E-09	2	216	16	160	0.13	1 4E+00	1 4E+00	8 0E-04	3 2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	4.0E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.6E-02	No	No
	4500	5.0E-03	2.0E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.3E-02	No	No
	6500	2.0E-03	8.0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	5.1E-03	No	No
	8500	1.0E-03	4.0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.6E-03	No	No
	12500	5.0E-04	2.0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.3E-03	No	No
	22500	2.0E-04	8.0E-11	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	5.1E-04	No	No
	35500	1.0E-04	4.0E-11	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	6500	1.1E-05	2.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	1.6E-05	No	No
	8500	5.3E-06	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	8.2E-06	No	No
	14000	2.1E-06	4.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	3.3E-06	No	No
	22000	1.1E-06	2.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	1.6E-06	No	No
	35500	5.3E-07	1.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	8.2E-07	No	No
	50000+	2.1E-07	4.5E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	3.3E-07	No	No
	50000++	1.1E-07	2.2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	1.6E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	6500	1.0E-02	4.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.2E-07	No	No
	8500	5.0E-03	2.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-07	No	No
	14000	2.0E-03	8.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.5E-08	No	No
	22000	1.0E-03	4.4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.2E-08	No	No
	35500	5.0E-04	2.2E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-08	No	No
	50000+	2.0E-04	8.7E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.5E-09	No	No
	50000++	1.0E-04	4.4E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category D

Green frog risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1 0E-02	4 0E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	2.6E-02	No	No
	5000	5 0E-03	2 0E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	1.3E-02	No	No
	9000	2 0E-03	8 0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	5.1E-03	No	No
	14000	1 0E-03	4 0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	2.6E-03	No	No
	24000	5 0E-04	2 0E-10	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	1.3E-03	No	No
	50000	2 0E-04	8 0E-11	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	5.1E-04	No	No
	50000+	1 0E-04	4 0E-11	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	2.6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1967														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	7500	1 1E-05	2 2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	1.6E-05	No	No
	10000	5 3E-06	1 1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	8.2E-06	No	No
	18000	2 1E-06	4 5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	3.3E-06	No	No
	30000	1 1E-06	2 2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	1.6E-06	No	No
	50000	5 3E-07	1 1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	8.2E-07	No	No
	50000+	2 1E-07	4 5E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	3.3E-07	No	No
	50000++	1 1E-07	2 2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	1.6E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	7500	1 0E-02	4 4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.2E-07	No	No
	10000	5 0E-03	2 2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-07	No	No
	18000	2 0E-03	8 7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.5E-08	No	No
	30000	1 0E-03	4 4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.2E-08	No	No
	50000	5 0E-04	2 2E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-08	No	No
	50000+	2 0E-04	8 7E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.5E-09	No	No
	50000++	1 0E-04	4 4E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, EPTM

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	2.4E-07	60	0.1	16	160	3.75	6.3E-04	2.7E-03	1.5E+00	No	Yes
	4000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-03	7.6E-01	No	No
	4000	2.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	5.3E-04	3.0E-01	No	No
	5000	1.0E-03	2.4E-08	60	0.1	16	160	3.75	6.3E-04	2.7E-04	1.5E-01	No	No
	5000	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-04	7.6E-02	No	No
	7000	2.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	5.3E-05	3.0E-02	No	No
	9000	1.0E-04	2.4E-09	60	0.1	16	160	3.75	6.3E-04	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	1.1E-05	8.0E-06	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	5.8E-04	No	No
	5000	5.3E-06	4.0E-06	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	2.9E-04	No	No
	6000	2.1E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	1.2E-04	No	No
	7500	1.1E-06	8.0E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	5.8E-05	No	No
	9500	5.3E-07	4.0E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	2.9E-05	No	No
	14500	2.1E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	1.2E-05	No	No
	20000	1.1E-07	8.0E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	5.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	8.0E-02	1.2E-05	No	No
	5000	5.0E-03	7.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	5.8E-06	No	No
	6000	2.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	2.3E-06	No	No
	7500	1.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	1.2E-06	No	No
	9500	5.0E-04	7.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	5.8E-07	No	No
	14500	2.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	2.3E-07	No	No
	20000	1.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, EPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	3000	1.0E-02	2.4E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.5E+00	No
	3000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	7.6E-01	No
	3000	2.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.0E-01	No
	4500	1.0E-03	2.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.5E-01	No
	6500	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	7.6E-02	No
	9500	2.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.0E-02	No
	14000	1.0E-04	2.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.5E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	3000	1.1E-05	8.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	5.8E-04	No
	4000	5.3E-06	4.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.9E-04	No
	5000	2.1E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.2E-04	No
	8500	1.1E-06	8.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	5.8E-05	No
	12000	5.3E-07	4.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.9E-05	No
	24000	2.1E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.2E-05	No
	40000	1.1E-07	8.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	5.8E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	3000	1.0E-02	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No
	4000	5.0E-03	7.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.8E-06	No
	5000	2.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-06	No
	8500	1.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No
	12000	5.0E-04	7.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.8E-07	No
	24000	2.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-07	No
	40000	1.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, EPTM

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	2.4E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.5E+00	No	Yes
	3000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	7.6E-01	No	No
	4500	2.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.0E-01	No	No
	6000	1.0E-03	2.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.5E-01	No	No
	9500	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	7.6E-02	No	No
	16500	2.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.0E-02	No	No
	26500	1.0E-04	2.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	1.1E-05	8.0E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-06	5.8E-04	No	No
	8500	5.3E-06	4.0E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-06	2.9E-04	No	No
	14500	2.1E-06	1.6E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-06	1.2E-04	No	No
	22000	1.1E-06	8.0E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	9.6E-07	5.8E-05	No	No
	35500	5.3E-07	4.0E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	4.8E-07	2.9E-05	No	No
	50000+	2.1E-07	1.6E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02	1.9E-07	1.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
	8500	5.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.8E-06	No	No
	14500	2.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-06	No	No
	22000	1.0E-03	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
	35500	5.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.8E-07	No	No
	50000+	2.0E-04	0.0017	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, EPTM

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.4E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.5E+00	No	Yes
4000	5.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	7.8E-01	No	No
7000	2.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	3.0E-01	No	No
10000	1.0E-03	2.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.5E-01	No	No
16000	5.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	7.8E-02	No	No
30000	2.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	3.0E-02	No	No
50000	1.0E-04	2.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.5E-02	No	No
*Acute critical effect is oil pneumonia Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	1.1E-05	8.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	5.8E-04	No	No
10000	5.3E-06	4.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.9E-04	No	No
18000	2.1E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	1.2E-04	No	No
30000	1.1E-06	8.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	5.8E-05	No	No
50000	5.3E-07	4.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.9E-05	No	No
50000+	2.1E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	1.2E-05	No	No
50000++	1.1E-07	8.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	5.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	1.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-05	No	No
10000	5.0E-03	7.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.8E-06	No	No
18000	2.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-06	No	No
30000	1.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-06	No	No
50000	5.0E-04	7.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.8E-07	No	No
50000+	2.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-07	No	No
50000++	1.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)															
	4000	1.0E-02	1.2E-07	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	2.7E-03	7.6E-01	No	No
	4000	5.0E-03	5.0E-08	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	1.3E-03	3.8E-01	No	No
	4000	2.0E-03	2.0E-08	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	5.3E-04	1.5E-01	No	No
	5000	1.0E-03	1.2E-08	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	2.7E-04	7.6E-02	No	No
	5000	5.0E-04	5.0E-09	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	1.3E-04	3.8E-02	No	No
	7000	2.0E-04	2.0E-09	60	0.1	16	16	375	6.3E-04	375	6.3E-04	1.8E-07	5.3E-05	1.5E-02	No	No
Ingestion	Distance (m)															
	4000	1.1E-05	4.0E-06	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	9.6E-06	2.9E-04	No	No
	5000	5.3E-06	2.0E-06	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	4.8E-06	1.5E-04	No	No
	6000	2.1E-06	8.0E-07	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	1.9E-06	5.8E-05	No	No
	7500	1.1E-06	4.0E-07	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	9.6E-07	2.9E-05	No	No
	9500	5.3E-07	2.0E-07	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	4.8E-07	1.5E-05	No	No
	14500	2.1E-07	8.0E-08	17.6	22	16	16	1600	1.10	1600	1.10	1.4E-02	1.9E-07	5.8E-06	No	No
Dermal Absorption	Distance (m)															
	4000	1.0E-02	7.8E-06	2	216	16	16	160	0.13	160	0.13	1.4E+00	8.0E-02	5.8E-06	No	No
	5000	5.0E-03	3.9E-06	2	216	16	16	160	0.13	160	0.13	1.4E+00	4.0E-02	2.9E-06	No	No
	6000	2.0E-03	1.6E-06	2	216	16	16	160	0.13	160	0.13	1.4E+00	1.6E-02	1.2E-06	No	No
	7500	1.0E-03	7.8E-07	2	216	16	16	160	0.13	160	0.13	1.4E+00	8.0E-03	5.8E-07	No	No
	9500	5.0E-04	3.9E-07	2	216	16	16	160	0.13	160	0.13	1.4E+00	4.0E-03	2.9E-07	No	No
	14500	2.0E-04	1.6E-07	2	216	16	16	160	0.13	160	0.13	1.4E+00	1.6E-03	1.2E-07	No	No
Dermal Irritation	Distance (m)															
	4000	1.0E-04	7.8E-08	2	216	16	16	160	0.13	160	0.13	1.4E+00	8.0E-04	5.8E-08	No	No
	5000	5.0E-05	3.9E-08	2	216	16	16	160	0.13	160	0.13	1.4E+00	4.0E-04	2.9E-08	No	No
	6000	2.0E-05	1.6E-08	2	216	16	16	160	0.13	160	0.13	1.4E+00	1.6E-04	1.2E-08	No	No
	7500	1.0E-05	7.8E-09	2	216	16	16	160	0.13	160	0.13	1.4E+00	8.0E-05	5.8E-09	No	No
	9500	5.0E-06	3.9E-09	2	216	16	16	160	0.13	160	0.13	1.4E+00	4.0E-05	2.9E-09	No	No
	14500	2.0E-06	1.6E-09	2	216	16	16	160	0.13	160	0.13	1.4E+00	1.6E-05	1.2E-09	No	No

Pasquill Category B

Green frog risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	3000	1.0E-02	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	7.6E-01	No
	3000	5.0E-03	5.9E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	3.8E-01	No
	3000	2.0E-03	2.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	1.5E-01	No
	4500	1.0E-03	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	7.6E-02	No
	6500	5.0E-04	5.9E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	3.8E-02	No
	9500	2.0E-04	2.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	1.5E-02	No
	14000	1.0E-04	1.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	7.6E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	3000	1.1E-05	4.0E-06	17.6	22	16	1600	1.10	1.10	1.4E-02	9.6E-06	2.9E-04	No
	4000	5.3E-06	2.0E-06	17.6	22	16	1600	1.10	1.10	1.4E-02	4.8E-06	1.5E-04	No
	5000	2.1E-06	8.0E-07	17.6	22	16	1600	1.10	1.10	1.4E-02	1.9E-06	5.8E-05	No
	8500	1.1E-06	4.0E-07	17.6	22	16	1600	1.10	1.10	1.4E-02	9.6E-07	2.9E-05	No
	12000	5.3E-07	2.0E-07	17.6	22	16	1600	1.10	1.10	1.4E-02	4.8E-07	1.5E-05	No
	24000	2.1E-07	8.0E-08	17.6	22	16	1600	1.10	1.10	1.4E-02	1.9E-07	5.8E-06	No
	40000	1.1E-07	4.0E-08	17.6	22	16	1600	1.10	1.10	1.4E-02	9.6E-08	2.9E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	3000	1.0E-02	7.8E-06	2	216	16	160	0.13	0.13	1.4E+00	8.0E-02	5.8E-06	No
	4000	5.0E-03	3.9E-06	2	216	16	160	0.13	0.13	1.4E+00	4.0E-02	2.9E-06	No
	5000	2.0E-03	1.6E-06	2	216	16	160	0.13	0.13	1.4E+00	1.6E-02	1.2E-06	No
	8500	1.0E-03	7.8E-07	2	216	16	160	0.13	0.13	1.4E+00	8.0E-03	5.8E-07	No
	12000	5.0E-04	3.9E-07	2	216	16	160	0.13	0.13	1.4E+00	4.0E-03	2.9E-07	No
	24000	2.0E-04	1.6E-07	2	216	16	160	0.13	0.13	1.4E+00	1.6E-03	1.2E-07	No
	40000	1.0E-04	7.8E-08	2	216	16	160	0.13	0.13	1.4E+00	8.0E-04	5.8E-08	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	1.2E-07	60	0.1	16	160	375	6.3E-04	1.6E-07
3000	5.0E-03	5.9E-08	60	0.1	16	160	375	6.3E-04	1.6E-07
4500	2.0E-03	2.4E-08	60	0.1	16	160	375	6.3E-04	1.6E-07
6000	1.0E-03	1.2E-08	60	0.1	16	160	375	6.3E-04	1.6E-07
9500	5.0E-04	5.9E-09	60	0.1	16	160	375	6.3E-04	1.6E-07
16500	2.0E-04	2.4E-09	60	0.1	16	160	375	6.3E-04	1.6E-07
26500	1.0E-04	1.2E-09	60	0.1	16	160	375	6.3E-04	1.6E-07
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
6500	1.1E-05	4.0E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
8500	5.3E-06	2.0E-06	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
14500	2.1E-06	8.0E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
22000	1.1E-06	4.0E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
35500	5.3E-07	2.0E-07	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
50000+	2.1E-07	8.0E-08	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
50000++	1.1E-07	4.0E-08	17.5	22	16	1600	1.09	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
6500	1.0E-02	7.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
8500	5.0E-03	3.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
14500	2.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
22000	1.0E-03	7.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00
35500	5.0E-04	3.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00
50000+	2.0E-04	1.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00
50000++	1.0E-04	7.8E-08	2	216	16	160	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1 0E-02	1 2E-07	60	0 1	16	160	3 75	6 3E-04	1 6E-07	2 7E-03	7 6E-01	No	No
	4000	5 0E-03	5 9E-08	60	0 1	16	160	3 75	6 3E-04	1 6E-07	1 3E-03	3 8E-01	No	No
	7000	2 0E-03	2 4E-08	60	0 1	16	160	3 75	6 3E-04	1 6E-07	5 3E-04	1 5E-01	No	No
	10000	1 0E-03	1 2E-08	60	0 1	16	160	3 75	6 3E-04	1 6E-07	2 7E-04	7 6E-02	No	No
	16000	5 0E-04	5 9E-09	60	0 1	16	160	3 75	6 3E-04	1 6E-07	1 3E-04	3 8E-02	No	No
	30000	2 0E-04	2 4E-09	60	0 1	16	160	3 75	6 3E-04	1 6E-07	5 3E-05	1 5E-02	No	No
50000	1 0E-04	1 2E-09	60	0 1	16	160	3 75	6 3E-04	1 6E-07	2 7E-05	7 6E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	1 1E-05	4 0E-06	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	9 6E-06	2 9E-04	No	No
	10000	5 3E-06	2 0E-06	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	4 8E-06	1 5E-04	No	No
	18000	2 1E-06	8 0E-07	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	1 9E-06	5 8E-05	No	No
	30000	1 1E-06	4 0E-07	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	9 6E-07	2 9E-05	No	No
	50000	5 3E-07	2 0E-07	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	4 8E-07	1 5E-05	No	No
	50000+	2 1E-07	8 0E-08	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	1 9E-07	5 8E-06	No	No
50000++	1 1E-07	4 0E-08	17 6	22	16	1600	1 10	1 4E-02	1 4E-02	9 6E-08	2 9E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1 0E-02	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	8 0E-02	5 8E-06	No	No
	10000	5 0E-03	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	4 0E-02	2 9E-06	No	No
	18000	2 0E-03	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	1 6E-02	1 2E-06	No	No
	30000	1 0E-03	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	8 0E-03	5 8E-07	No	No
	50000	5 0E-04	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	4 0E-03	2 9E-07	No	No
	50000+	2 0E-04	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	1 6E-03	1 2E-07	No	No
50000++	1 0E-04	1 7E-03	2	216	16	160	0 13	1 4E+00	1 4E+00	8 0E-04	5 8E-08	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)															
	Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	1.5E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	9.5E-01	No	No	
	4000	5.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	4.8E-01	No	No	
	4000	2.0E-03	3.0E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	1.9E-01	No	No	
	5000	1.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	9.5E-02	No	No	
	5000	5.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	4.8E-02	No	No	
	7000	2.0E-04	3.0E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	1.9E-02	No	No	
	9000	1.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	9.5E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver and lungs. Critical Study Driver et al. 1992															
Ingestion	4000	1.1E-05	5.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	3.6E-04	No	No	
	5000	5.3E-06	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	1.8E-04	No	No	
	6000	2.1E-06	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	7.3E-05	No	No	
	7500	1.1E-06	5.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.8E-07	3.8E-05	No	No	
	9500	5.3E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	1.8E-05	No	No	
	14500	2.1E-07	1.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	7.3E-06	No	No	
	20000	1.1E-07	5.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	3.6E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study Lewis 1989															
Dermal Absorption	4000	1.0E-02	9.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.2E-08	No	No	
	5000	5.0E-03	4.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-08	No	No	
	6000	2.0E-03	1.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-08	No	No	
	7500	1.0E-03	9.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.2E-07	No	No	
	9500	5.0E-04	4.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-07	No	No	
	14500	2.0E-04	1.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-07	No	No	
	20000	1.0E-04	9.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.2E-08	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study Lewis 1989															

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation	3000	1 0E-02	1 5E-07	60	0.1	16	160	375	6 3E-04
	3000	5 0E-03	7 4E-06	60	0.1	16	160	375	6 3E-04
	3000	2 0E-03	3 0E-06	60	0.1	16	160	375	6 3E-04
	4500	1 0E-03	1 5E-06	60	0.1	16	160	375	6 3E-04
	6500	5 0E-04	7 4E-09	60	0.1	16	160	375	6 3E-04
	9500	2 0E-04	3 0E-09	60	0.1	16	160	375	6 3E-04
	14000	1 0E-04	1 5E-09	60	0.1	16	160	375	6 3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effect is minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion	3000	1 1E-05	5 0E-06	17.6	22	16	1600	1.10	1 4E-02
	4000	5 3E-06	2 5E-06	17.6	22	16	1600	1.10	1 4E-02
	5000	2 1E-06	1 0E-06	17.6	22	16	1600	1.10	1 4E-02
	8500	1 1E-06	5 0E-07	17.6	22	16	1600	1.10	1 4E-02
	12000	5 3E-07	2 5E-07	17.6	22	16	1600	1.10	1 4E-02
	24000	2 1E-07	1 0E-07	17.6	22	16	1600	1.10	1 4E-02
	40000	1 1E-07	5 0E-08	17.6	22	16	1600	1.10	1 4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Birmachan 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)
Dermal Absorption	3000	1 0E-02	17E-03	97E-06	2	216	160	0.13	1 4E+00
	4000	5 0E-03	17E-03	4 9E-06	2	216	160	0.13	1 4E+00
	5000	2 0E-03	17E-03	1 9E-06	2	216	160	0.13	1 4E+00
	8500	1 0E-03	17E-03	97E-07	2	216	160	0.13	1 4E+00
	12000	5 0E-04	17E-03	4 9E-07	2	216	160	0.13	1 4E+00
	24000	2 0E-04	17E-03	1 9E-07	2	216	160	0.13	1 4E+00
	40000	1 0E-04	17E-03	97E-08	2	216	160	0.13	1 4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)
Dermal Absorption	3000	1 0E-02	17E-03	97E-06	2	216	160	0.13	1 4E+00
	4000	5 0E-03	17E-03	4 9E-06	2	216	160	0.13	1 4E+00
	5000	2 0E-03	17E-03	1 9E-06	2	216	160	0.13	1 4E+00
	8500	1 0E-03	17E-03	97E-07	2	216	160	0.13	1 4E+00
	12000	5 0E-04	17E-03	4 9E-07	2	216	160	0.13	1 4E+00
	24000	2 0E-04	17E-03	1 9E-07	2	216	160	0.13	1 4E+00
	40000	1 0E-04	17E-03	97E-08	2	216	160	0.13	1 4E+00

Mobile Smoke - Cannon Range (Mush Paddle Hollow)																							
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect										
Inhalation	2500	1.0E-02	1.5E-07	60	0.1	16	375	6.3E-04	1.8E-07	2.7E-03	9.5E-01	No	No										
	3000	5.0E-03	7.4E-08	60	0.1	16	375	6.3E-04	1.8E-07	1.3E-03	4.8E-01	No	No										
	4500	2.0E-03	3.0E-08	60	0.1	16	375	6.3E-04	1.8E-07	5.3E-04	1.8E-01	No	No										
	6000	1.0E-03	1.5E-08	60	0.1	16	375	6.3E-04	1.8E-07	2.7E-04	9.5E-02	No	No										
	9500	5.0E-04	7.4E-09	60	0.1	16	375	6.3E-04	1.8E-07	1.3E-04	4.8E-02	No	No										
	16500	2.0E-04	3.0E-09	60	0.1	16	375	6.3E-04	1.8E-07	5.3E-05	1.8E-02	No	No										
	26500	1.0E-04	1.5E-09	60	0.1	16	375	6.3E-04	1.8E-07	2.7E-05	9.5E-03	No	No										
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																							
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																							
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect										
Ingestion	6500	1.1E-05	5.0E-06	17.5	22	16	109	1.4E-02	1.4E-02	9.6E-06	3.6E-04	No	No										
	8500	5.3E-06	2.5E-06	17.5	22	16	109	1.4E-02	1.4E-02	4.8E-06	1.8E-04	No	No										
	14500	2.1E-06	1.0E-06	17.5	22	16	109	1.4E-02	1.4E-02	1.9E-06	7.3E-05	No	No										
	22000	1.1E-06	5.0E-07	17.5	22	16	109	1.4E-02	1.4E-02	9.6E-07	3.6E-05	No	No										
	35500	5.3E-07	2.5E-07	17.5	22	16	109	1.4E-02	1.4E-02	4.8E-07	1.8E-05	No	No										
	50000+	2.1E-07	1.0E-07	17.5	22	16	109	1.4E-02	1.4E-02	1.9E-07	7.3E-06	No	No										
	50000++	1.1E-07	5.0E-08	17.5	22	16	109	1.4E-02	1.4E-02	9.6E-08	3.6E-06	No	No										
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Biarmachian 1958																							
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																							
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Dermal Absorption	8500	1.0E-02	0.0017	9.7E-06	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.2E-06	No	No									
	8500	5.0E-03	0.0017	4.9E-06	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-06	No	No									
	14500	2.0E-03	0.0017	1.9E-06	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-06	No	No									
	22000	1.0E-03	0.0017	9.7E-07	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.2E-07	No	No									
	35500	5.0E-04	0.0017	4.9E-07	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-07	No	No									
	50000+	2.0E-04	0.0017	1.9E-07	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-07	No	No									
	50000++	1.0E-04	0.0017	9.7E-08	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.2E-08	No	No									
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																							
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																							

Green frog risk, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	3000	1.0E-02	1.5E-07	60	0.1	16	160	3.75	6.3E-04
	4000	5.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04
	7000	2.0E-03	3.0E-08	60	0.1	16	160	3.75	6.3E-04
	10000	1.0E-03	1.5E-08	60	0.1	16	160	3.75	6.3E-04
	16000	5.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04
	30000	2.0E-04	3.0E-09	60	0.1	16	160	3.75	6.3E-04
	50000	1.0E-04	1.5E-09	60	0.1	16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
	7500	1.1E-05	5.0E-06	17.6	22	16	1600	1.10	1.4E-02
	10000	5.3E-06	2.5E-06	17.6	22	16	1600	1.10	1.4E-02
	18000	2.1E-06	1.0E-06	17.6	22	16	1600	1.10	1.4E-02
	30000	1.1E-06	5.0E-07	17.6	22	16	1600	1.10	1.4E-02
	50000	5.3E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02
	50000+	2.1E-07	1.0E-07	17.6	22	16	1600	1.10	1.4E-02
	50000++	1.1E-07	5.0E-08	17.6	22	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	7500	1.0E-02	9.7E-06	2	216	16	160	0.13	1.4E+00
	10000	5.0E-03	4.9E-06	2	216	16	160	0.13	1.4E+00
	18000	2.0E-03	1.9E-06	2	216	16	160	0.13	1.4E+00
	30000	1.0E-03	9.7E-07	2	216	16	160	0.13	1.4E+00
	50000	5.0E-04	4.9E-07	2	216	16	160	0.13	1.4E+00
	50000+	2.0E-04	1.9E-07	2	216	16	160	0.13	1.4E+00
	50000++	1.0E-04	9.7E-08	2	216	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	7500	1.0E-02	9.7E-06	2	216	16	160	0.13	1.4E+00
	10000	5.0E-03	4.9E-06	2	216	16	160	0.13	1.4E+00
	18000	2.0E-03	1.9E-06	2	216	16	160	0.13	1.4E+00
	30000	1.0E-03	9.7E-07	2	216	16	160	0.13	1.4E+00
	50000	5.0E-04	4.9E-07	2	216	16	160	0.13	1.4E+00
	50000+	2.0E-04	1.9E-07	2	216	16	160	0.13	1.4E+00
	50000++	1.0E-04	9.7E-08	2	216	16	160	0.13	1.4E+00

Green frog risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	1.8E-07	60	0.1	16	16	160	6.3E-04	1.6E-07	2.7E-03	1.1E+00	No	Yes
4000	5.0E-03	8.9E-08	60	0.1	16	16	160	6.3E-04	1.6E-07	1.3E-03	5.7E-01	No	No
4000	2.0E-03	3.6E-08	60	0.1	16	16	160	6.3E-04	1.6E-07	5.3E-04	2.3E-01	No	No
5000	1.0E-03	1.8E-08	60	0.1	16	16	160	6.3E-04	1.6E-07	2.7E-04	1.1E-01	No	No
5000	5.0E-04	8.9E-09	60	0.1	16	16	160	6.3E-04	1.6E-07	1.3E-04	5.7E-02	No	No
7000	2.0E-04	3.6E-09	60	0.1	16	16	160	6.3E-04	1.6E-07	5.3E-05	2.3E-02	No	No
9000	1.0E-04	1.8E-09	60	0.1	16	16	160	6.3E-04	1.6E-07	2.7E-05	1.1E-02	No	No
*Acute critical effect is oil pneumonia Critical Study: Shinn et al. 1987 **Chronic critical effects are minor lesions of the heart, liver and lungs Critical Study: Driver et al. 1992													
Ingestion													
4000	1.1E-05	6.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-06	4.4E-04	No	No
5000	5.3E-06	3.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.8E-06	2.2E-04	No	No
6000	2.1E-06	1.2E-06	17.6	22	16	16	1600	1.10	1.4E-02	1.9E-06	8.7E-05	No	No
7500	1.1E-06	6.0E-07	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-07	4.4E-05	No	No
9500	5.3E-07	3.0E-07	17.6	22	16	16	1600	1.10	1.4E-02	4.8E-07	2.2E-05	No	No
14500	2.1E-07	1.2E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.9E-07	8.7E-06	No	No
20000	1.1E-07	6.0E-08	17.6	22	16	16	1600	1.10	1.4E-02	9.6E-08	4.4E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958 **Chronic critical effect is gastrointestinal irritation Critical Study: Lewis 1989													
Dermal Absorption													
4000	1.0E-02	1.2E-05	2	216	16	16	160	0.13	1.4E+00	8.0E-02	8.6E-06	No	No
5000	5.0E-03	5.8E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-02	4.3E-06	No	No
6000	2.0E-03	2.3E-06	2	216	16	16	160	0.13	1.4E+00	1.6E-02	1.7E-06	No	No
7500	1.0E-03	1.2E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-03	8.6E-07	No	No
9500	5.0E-04	5.8E-07	2	216	16	16	160	0.13	1.4E+00	4.0E-03	4.3E-07	No	No
14500	2.0E-04	2.3E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-03	1.7E-07	No	No
20000	1.0E-04	1.2E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-04	8.6E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990 **Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	3000	1.0E-02	1.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-03	1.1E+00	No
	3000	5.0E-03	8.9E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-03	5.7E-01	No
	3000	2.0E-03	3.6E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-04	2.3E-01	No
	4500	1.0E-03	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-04	1.1E-01	No
	6500	5.0E-04	8.9E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	1.3E-04	5.7E-02	No
	9500	2.0E-04	3.6E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	5.3E-05	2.3E-02	No
	14000	1.0E-04	1.8E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-07	2.7E-05	1.1E-02	No
*Acute critical effect is oil pneumonia Critical Study: Shinn et al. 1987													
**Chronic critical effect are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	3000	1.1E-05	6.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-06	4.4E-04	No
	4000	5.3E-06	3.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-06	2.2E-04	No
	5000	2.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	8.7E-05	No
	8500	1.1E-06	6.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-07	4.4E-05	No
	12000	5.3E-07	3.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.8E-07	2.2E-05	No
	24000	2.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	8.7E-06	No
	40000	1.1E-07	6.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	9.6E-08	4.4E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	3000	1.0E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.6E-06	No
	4000	5.0E-03	5.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-06	No
	5000	2.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-06	No
	8500	1.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.6E-07	No
	12000	5.0E-04	5.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-07	No
	24000	2.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-07	No
	40000	1.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.6E-08	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield												
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	2500 3000 4500 6000 9500 16500 26500	1.0E-02 5.0E-03 3.6E-08 2.0E-03 5.0E-04 2.0E-04 1.0E-04	1.8E-07 8.9E-08 3.6E-08 1.8E-08 8.9E-09 3.6E-09 1.8E-09	60 60 60 60 60 60 60	0.1 0.1 0.1 0.1 0.1 0.1 0.1	16 16 16 16 16 16 16	160 160 160 160 160 160 160	3.75 3.75 3.75 3.75 3.75 3.75 3.75	6.3E-04 6.3E-04 6.3E-04 6.3E-04 6.3E-04 6.3E-04 6.3E-04	2.7E-03 1.3E-03 5.3E-04 2.7E-04 1.3E-04 5.3E-05 2.7E-05	1.1E+00 5.7E-01 2.3E-01 1.1E-01 5.7E-02 2.3E-02 1.1E-02	No No No No No No No
*Acute critical effect is oil pneumonia Critical Study Shinn et al 1987												
**Chronic critical effects are minor lesions of the heart, liver, and lungs Critical Study Driver et al 1992												
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	6500 8500 14500 22000 35500 50000+ 50000++	1.1E-05 5.3E-06 2.1E-06 1.1E-06 5.3E-07 2.1E-07 1.1E-07	6.0E-06 3.0E-06 1.2E-06 6.0E-07 3.0E-07 1.2E-07 6.0E-08	17.5 17.5 17.5 17.5 17.5 17.5 17.5	22 22 22 22 22 22 22	16 16 16 16 16 16 16	1600 1600 1600 1600 1600 1600 1600	1.09 1.09 1.09 1.09 1.09 1.09 1.09	1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02	9.6E-06 4.8E-06 1.9E-06 9.6E-07 4.8E-07 1.9E-07 9.6E-08	4.4E-04 2.2E-04 8.7E-05 4.4E-05 2.2E-05 8.7E-06 4.4E-06	No No No No No No No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney Critical Study Bramachari 1958												
**Chronic critical effect is gastrointestinal irritation Critical Study Lewis 1989												
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	6500 8500 14500 22000 35500 50000+ 50000++	0.0017 0.0017 0.0017 0.0017 0.0017 0.0017 0.0017	1.2E-05 5.8E-06 2.3E-06 1.2E-06 5.8E-07 2.3E-07 1.2E-07	2 2 2 2 2 2 2	216 216 216 216 216 216 216	16 16 16 16 16 16 16	160 160 160 160 160 160 160	0.13 0.13 0.13 0.13 0.13 0.13 0.13	1.4E+00 1.4E+00 1.4E+00 1.4E+00 1.4E+00 1.4E+00 1.4E+00	8.0E-02 4.0E-02 1.7E-02 8.0E-03 4.0E-03 1.7E-03 8.0E-04	8.6E-06 4.3E-06 1.7E-06 8.6E-07 4.3E-07 1.7E-07 8.6E-08	No No No No No No No
*Acute critical effect is slight to moderate skin irritation Critical Study Palmer 1990												
**Chronic critical effects are well defined erythema and edema Critical Study Lewis 1989												

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)											
Inhalation	3000	1 0E-02	1 8E-07	60	0.1	16	160	3.75	6.3E-04	2.7E-03	1.1E+00	No	Yes
	4000	5 0E-03	8 9E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-03	5.7E-01	No	No
	7000	2 0E-03	3 6E-08	60	0.1	16	160	3.75	6.3E-04	5.3E-04	2.3E-01	No	No
	10000	1 0E-03	1 8E-08	60	0.1	16	160	3.75	6.3E-04	2.7E-04	1.1E-01	No	No
	16000	5 0E-04	8 9E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-04	5.7E-02	No	No
	30000	2 0E-04	3 6E-09	60	0.1	16	160	3.75	6.3E-04	5.3E-05	2.3E-02	No	No
	50000	1 0E-04	1 8E-09	60	0.1	16	160	3.75	6.3E-04	2.7E-05	1.1E-02	No	No
*Acute critical effect is oil pneumonia Critical Study Shinn et al 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs Critical Study Driver et al 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	7500	1 1E-05	6 0E-06	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	4.4E-04	No	No
	10000	5.3E-06	3.0E-06	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	2.2E-04	No	No
	18000	2.1E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	8.7E-05	No	No
	30000	1.1E-06	6.0E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	4.4E-05	No	No
	50000	5.3E-07	3.0E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	2.2E-05	No	No
	50000+	2.1E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	8.7E-06	No	No
	50000++	1.1E-07	6.0E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	4.4E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study, Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study, Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1 0E-02	1 2E-05	2	216	16	160	0.13	1.4E+00	8 0E-02	8 6E-06	No	No
	10000	5 0E-03	5 8E-06	2	216	16	160	0.13	1.4E+00	4 0E-02	4 3E-06	No	No
	18000	2 0E-03	2 3E-06	2	216	16	160	0.13	1.4E+00	1 6E-02	1 7E-06	No	No
	30000	1 0E-03	1 2E-06	2	216	16	160	0.13	1.4E+00	8 0E-03	8 6E-07	No	No
	50000	5 0E-04	5 8E-07	2	216	16	160	0.13	1.4E+00	4 0E-03	4 3E-07	No	No
	50000+	2 0E-04	2 3E-07	2	216	16	160	0.13	1.4E+00	1 6E-03	1 7E-07	No	No
	50000++	1 0E-04	1 2E-07	2	216	16	160	0.13	1.4E+00	8 0E-04	8 6E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study, Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study, Lewis 1989													

Appendix IV
Intake Calculations for Yellowbelly Racer

APPENDIX IV:

Intake Calculations for Yellowbelly Racer

INTAKE PARAMETERS FOR YELLOWBELLY RACERS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

Relocate Current Practice

Racer intake, RCP

Static Smoke												
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
Inhalation			Daily IR	Hourly IR	Event IR							
	4000	0.01	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	4.7E-07		
	4000	0.005	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	2.3E-07		
	5000	0.002	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	9.4E-08		
	5000	0.001	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	4.7E-08		
	6000	0.0005	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	2.3E-08		
	8000	0.0002	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	9.4E-09		
	12000	0.0001	4.1E-03	1.7E-04	2.6E-04	16.7	8	0.25	2920	4.7E-09		

Pasquill Category B

Racer intake, RCP

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Racer intake, RCP

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Pasquill Category D

Racer intake, RCP

Static Smoke		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)			EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
	Distance (m)			Intake Rate (m ³ /day)												
				Daily IR	Hourly IR	Event IR										
Inhalation	4000	0.01		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		4.7E-07	
	5000	0.005		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		2.3E-07	
	9000	0.002		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		9.4E-08	
	14000	0.001		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		4.7E-08	
	24000	0.0005		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		2.3E-08	
	50000	0.0002		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		9.4E-09	
	50000+	0.0001		4.1E-03	1.7E-04	2.6E-04	16.7		8		0.25		2920		4.7E-09	
Ingestion	7500	0.01	0.139	30	4.6E-05	2.2E+01	16.7		8		0.25		2920		1.9E-04	
	10000	0.005	0.139	30	2.3E-05	2.3E+01	16.7		8		0.25		2920		9.7E-05	
	18000	0.002	0.139	30	9.3E-06	2.4E+01	16.7		8		0.25		2920		4.1E-05	
	30000	0.001	0.139	30	4.6E-06	2.5E+01	16.7		8		0.25		2920		2.1E-05	
	50000	0.0005	0.139	30	2.3E-06	2.6E+01	16.7		8		0.25		2920		1.1E-05	
	50000+	0.0002	0.139	30	9.3E-07	2.7E+01	16.7		8		0.25		2920		4.6E-06	
	50000++	0.0001	0.139	30	4.6E-07	2.8E+01	16.7		8		0.25		2920		2.4E-06	
Dermal Absorption	7500	0.01		0.0131			16.7		8		0.25		2920		2.4E-05	
	10000	0.005		0.0131			16.7		8		0.25		2920		1.2E-05	
	18000	0.002		0.0131			16.7		8		0.25		2920		4.8E-06	
	30000	0.001		0.0131			16.7		8		0.25		2920		2.4E-06	
	50000	0.0005		0.0131			16.7		8		0.25		2920		1.2E-06	
	50000+	0.0002		0.0131			16.7		8		0.25		2920		4.8E-07	
	50000++	0.0001		0.0131			16.7		8		0.25		2920		2.4E-07	

Racer intake, RCP

Mobile Smoke - Musgrave Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)			
	Distance (m)																
		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)			
Inhalation				Hourly IR		Event IR											
				Daily IR		Hourly IR	Event IR										
	4000		0.01	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	1.6E-06						
	4000		0.005	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	8.2E-07						
	4000		0.002	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	3.3E-07						
	5000		0.001	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	1.6E-07						
	5000		0.0005	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	8.2E-08						
	7000		0.0002	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	3.3E-08						
	9000		0.0001	4.1E-03	1.7E-04	4.3E-04	35.2	8	0.25	2920	1.6E-08						
Ingestion	Distance (m)	Fog Oil Deposition (g/m ³)		Prey Weight (g)		Intake Rate (g/day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
						Daily IR											
	4000		0.01	0.139	30	4.6E-05	2.2E+01	35.2	8	0.25	2920	3.9E-04					
	5000		0.005	0.139	30	2.3E-05	2.2E+01	35.2	8	0.25	2920	2.0E-04					
	6000		0.002	0.139	30	9.3E-06	2.2E+01	35.2	8	0.25	2920	7.9E-05					
	7500		0.001	0.139	30	4.6E-06	2.2E+01	35.2	8	0.25	2920	3.9E-05					
	9500		0.0005	0.139	30	2.3E-06	2.2E+01	35.2	8	0.25	2920	2.0E-05					
	14500		0.0002	0.139	30	9.3E-07	2.2E+01	35.2	8	0.25	2920	7.9E-06					
	20000		0.0001	0.139	30	4.6E-07	2.2E+01	35.2	8	0.25	2920	3.9E-06					
Dermal Absorption	Distance (m)	Fog Oil Concentration (g/m ³)		Skin Surface Area (m ²)		ABS		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Dermally Absorbed Dose (g/kg-day)	
	4000		0.01	0.0131	1	1	35.2	8	0.25	2920	5.0E-05						
	5000		0.005	0.0131	1	1	35.2	8	0.25	2920	2.5E-05						
	6000		0.002	0.0131	1	1	35.2	8	0.25	2920	1.0E-05						
	7500		0.001	0.0131	1	1	35.2	8	0.25	2920	5.0E-06						
	9500		0.0005	0.0131	1	1	35.2	8	0.25	2920	2.5E-06						
	14500		0.0002	0.0131	1	1	35.2	8	0.25	2920	1.0E-06						
	20000		0.0001	0.0131	1	1	35.2	8	0.25	2920	5.0E-07						

Pasquill Category B

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Pasquill Category D

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Racer intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
	Distance (m)	Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
Inhalation				Daily IR	Hourly IR	Event IR									
	4000		0.01	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		8.2E-07	
	4000		0.005	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		4.1E-07	
	4000		0.002	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		1.6E-07	
	5000		0.001	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		8.2E-08	
	5000		0.0005	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		4.1E-08	
	7000		0.0002	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		1.6E-08	
	9000		0.0001	4.1E-03	1.7E-04	4.3E-04		17.6	8	0.25		2920		8.2E-09	
Ingestion				Prey Weight (g)	CF (g/g)	Intake Rate (g/day)									
	4000		0.01	0.139	30	4.6E-05		17.6	8	0.25		2920		2.0E-04	
	5000		0.005	0.139	30	2.3E-05		17.6	8	0.25		2920		9.8E-05	
	6000		0.002	0.139	30	9.3E-06		17.6	8	0.25		2920		3.9E-05	
	7500		0.001	0.139	30	4.6E-06		17.6	8	0.25		2920		2.0E-05	
	9500		0.0005	0.139	30	2.3E-06		17.6	8	0.25		2920		9.8E-06	
	14500		0.0002	0.139	30	9.3E-07		17.6	8	0.25		2920		3.9E-06	
	20000		0.0001	0.139	30	4.6E-07		17.6	8	0.25		2920		2.0E-06	
Dermal Absorption				Skin Surface Area (m ²)		ABS									
	4000		0.01	0.0131		1		17.6	8	0.25		2920		2.5E-05	
	5000		0.005	0.0131		1		17.6	8	0.25		2920		1.3E-05	
	6000		0.002	0.0131		1		17.6	8	0.25		2920		5.0E-06	
	7500		0.001	0.0131		1		17.6	8	0.25		2920		2.5E-06	
	9500		0.0005	0.0131		1		17.6	8	0.25		2920		1.3E-06	
	14500		0.0002	0.0131		1		17.6	8	0.25		2920		5.0E-07	
	20000		0.0001	0.0131		1		17.6	8	0.25		2920		2.5E-07	

Pasquill Category B

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Pasquill Category D

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Pasquill Category E

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[illegible]

Racer intake, RCP

[illegible]

Pasquill Category D

[illegible]

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Pasquill Category B

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[illegible]

Pasquill Category D

Racer intake RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR				AT (days)
	3000	0.01	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	4000	0.005	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	7000	0.002	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	10000	0.001	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	16000	0.0005	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	30000	0.0002	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
	50000	0.0001	4.1E-03	1.7E-04	4.3E-04	26.4	8	0.25	2920
Ingestion	Distance (m)	Fog Oil Deposition (g/m ³)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
	7500	0.01	30	4.6E-05	2.2E+01	26.4	8	0.25	2920
	10000	0.005	30	2.3E-05	2.2E+01	26.4	8	0.25	2920
	18000	0.002	30	9.3E-06	2.2E+01	26.4	8	0.25	2920
	30000	0.001	30	4.6E-06	2.2E+01	26.4	8	0.25	2920
	50000	0.0005	30	2.3E-06	2.2E+01	26.4	8	0.25	2920
	50000+	0.0002	30	9.3E-07	2.2E+01	26.4	8	0.25	2920
	50000++	0.0001	30	4.6E-07	2.2E+01	26.4	8	0.25	2920
Dermal Absorption	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)
	7500	0.01	0.0131		1	26.4	8	0.25	2920
	10000	0.005	0.0131		1	26.4	8	0.25	2920
	18000	0.002	0.0131		1	26.4	8	0.25	2920
	30000	0.001	0.0131		1	26.4	8	0.25	2920
	50000	0.0005	0.0131		1	26.4	8	0.25	2920
	50000+	0.0002	0.0131		1	26.4	8	0.25	2920
	50000++	0.0001	0.0131		1	26.4	8	0.25	2920

Operationally Preferred Training Method

Racer intake, OPTM

Static Smoke	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	2.0E-07
	4000	0.005	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	9.9E-08
	5000	0.002	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	4.0E-08
	5000	0.001	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	2.0E-08
	6000	0.0005	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	9.9E-09
	8000	0.0002	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	4.0E-09
	12000	0.0001	4.1E-03	1.7E-04	2.6E-04	7.1	8	0.25	2920	2.0E-09
Ingestion	4000	0.01								
	5000	0.005								
	6000	0.002								
	7000	0.001								
	9500	0.0005								
	14000	0.0002								
	20000	0.0001								
Dermal Absorption	4000	0.01								
	5000	0.005								
	6000	0.002								
	7000	0.001								
	9500	0.0005								
	14000	0.0002								
	20000	0.0001								

Pasquill Category B

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Pasquill Category D

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Pasquill Category D

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Pasquill Category B

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Mobile Smoke - Ballard Hollow or Wolf Hollow												
	Distance (m)	Fog Oil Concentration (g/m ³)	Inhalation Rate (m ³ /day) Daily IR Hourly IR Event IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
Inhalation	2500	0.01	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	5.9E-07				
	3000	0.005	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	3.0E-07				
	4500	0.002	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	1.2E-07				
	6000	0.001	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	5.9E-08				
	9500	0.0005	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	3.0E-08				
	16500	0.0002	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	1.2E-08				
	26500	0.0001	4.1E-03 1.7E-04 4.3E-04	12.7	8	0.25	2920	5.9E-09				
Ingestion	6500	0.01	Prey Weight (g) Prey SA (m ²) Fog Oil Deposition (g/m ³) Intake Rate (g/day) Daily IR	12.7	8	0.25	2920	1.4E-04				
	8500	0.005	30 0.139 0.005 2.2E+01 2.2E+01	12.7	8	0.25	2920	7.1E-05				
	14500	0.002	30 0.139 0.002 2.2E+01 2.2E+01	12.7	8	0.25	2920	2.8E-05				
	22000	0.001	30 0.139 0.001 2.2E+01 2.2E+01	12.7	8	0.25	2920	1.4E-05				
	35500	0.0005	30 0.139 0.0005 2.2E+01 2.2E+01	12.7	8	0.25	2920	7.1E-06				
	50000+	0.0002	30 0.139 0.0002 2.2E+01 2.2E+01	12.7	8	0.25	2920	2.8E-06				
	50000++	0.0001	30 0.139 0.0001 2.2E+01 2.2E+01	12.7	8	0.25	2920	1.4E-06				
Dermal Absorption	6500	0.01	Skin Surface Area (m ²) ABS	12.7	8	0.25	2920	1.8E-05				
	8500	0.005	0.0131 0.0131	12.7	8	0.25	2920	9.1E-06				
	14500	0.002	0.0131 0.0131	12.7	8	0.25	2920	3.6E-06				
	22000	0.001	0.0131 0.0131	12.7	8	0.25	2920	1.8E-06				
	35500	0.0005	0.0131 0.0131	12.7	8	0.25	2920	9.1E-07				
	50000+	0.0002	0.0131 0.0131	12.7	8	0.25	2920	3.6E-07				
	50000++	0.0001	0.0131 0.0131	12.7	8	0.25	2920	1.8E-07				

Racer intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
	Distance (m)			Hourly IR		Event IR									
				Daily IR	CF (g/g)										
Inhalation															
	3000		0.01	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		5.9E-07	
	4000		0.005	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		3.0E-07	
	7000		0.002	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		1.2E-07	
	10000		0.001	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		5.9E-08	
	16000		0.0005	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		3.0E-08	
	30000		0.0002	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		1.2E-08	
	50000		0.0001	4.1E-03	1.7E-04	4.3E-04		12.7	8	0.25		2920		5.9E-09	
Ingestion															
	7500		0.01	30	4.6E-05	2.2E+01		12.7	8	0.25		2920		1.4E-04	
	10000		0.005	30	2.3E-05	2.2E+01		12.7	8	0.25		2920		7.1E-05	
	18000		0.002	30	9.3E-06	2.2E+01		12.7	8	0.25		2920		2.8E-05	
	30000		0.001	30	4.6E-06	2.2E+01		12.7	8	0.25		2920		1.4E-05	
	50000		0.0005	30	2.3E-06	2.2E+01		12.7	8	0.25		2920		7.1E-06	
	50000+		0.0002	30	9.3E-07	2.2E+01		12.7	8	0.25		2920		2.8E-06	
	50000++		0.0001	30	4.6E-07	2.2E+01		12.7	8	0.25		2920		1.4E-06	
Dermal Absorption															
	7500		0.01	0.0131		1		12.7	8	0.25		2920		1.8E-05	
	10000		0.005	0.0131		1		12.7	8	0.25		2920		9.1E-06	
	18000		0.002	0.0131		1		12.7	8	0.25		2920		3.6E-06	
	30000		0.001	0.0131		1		12.7	8	0.25		2920		1.8E-06	
	50000		0.0005	0.0131		1		12.7	8	0.25		2920		9.1E-07	
	50000+		0.0002	0.0131		1		12.7	8	0.25		2920		3.6E-07	
	50000++		0.0001	0.0131		1		12.7	8	0.25		2920		1.8E-07	

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Pasquill Category B

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Pasquill Category D

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Inhalation			Daily IR	Hourly IR	Event IR						
	3000	0.01	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	7.4E-07	
	4000	0.005	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	3.7E-07	
	7000	0.002	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	1.9E-07	
	10000	0.001	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	7.4E-08	
	16000	0.0005	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	3.7E-08	
	30000	0.0002	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	1.9E-08	
	50000	0.0001	4.1E-03	1.7E-04	4.3E-04	15.8	8	0.25	2920	7.4E-09	
Ingestion	Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
	7500	0.01	0.139	30	4.6E-05	2.2E+01	15.8	8	0.25	2920	1.8E-04
	10000	0.005	0.139	30	2.3E-05	2.2E+01	15.8	8	0.25	2920	8.8E-05
	18000	0.002	0.139	30	9.3E-06	2.2E+01	15.8	8	0.25	2920	3.5E-05
	30000	0.001	0.139	30	4.6E-06	2.2E+01	15.8	8	0.25	2920	1.8E-05
	50000	0.0005	0.139	30	2.3E-06	2.2E+01	15.8	8	0.25	2920	8.8E-06
	50000+	0.0002	0.139	30	9.3E-07	2.2E+01	15.8	8	0.25	2920	3.5E-06
	50000++	0.0001	0.139	30	4.6E-07	2.2E+01	15.8	8	0.25	2920	1.8E-06
Dermal Absorption	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
	7500	0.01	0.0131	1	15.8	8	0.25	2920	2.3E-05		
	10000	0.005	0.0131	1	15.8	8	0.25	2920	1.1E-05		
	18000	0.002	0.0131	1	15.8	8	0.25	2920	4.5E-06		
	30000	0.001	0.0131	1	15.8	8	0.25	2920	2.3E-06		
	50000	0.0005	0.0131	1	15.8	8	0.25	2920	1.1E-06		
	50000+	0.0002	0.0131	1	15.8	8	0.25	2920	4.5E-07		
	50000++	0.0001	0.0131	1	15.8	8	0.25	2920	2.3E-07		

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Pasquill Category B

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Mobile Smoke - Bailey McCann Hollow or Babs Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)				EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR					
	2500	0.01	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	8.9E-07
	3000	0.005	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	4.4E-07
	4500	0.002	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	1.8E-07
	6000	0.001	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	8.9E-08
	9500	0.0005	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	4.4E-08
	16500	0.0002	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	1.8E-08
	26500	0.0001	4.1E-03	1.7E-04	4.3E-04	19.0	8	0.25	2920	8.9E-09
		Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion	Distance (m)				CF (g/g)					
	6500	0.01	0.139	30	4.6E-05	2.2E+01	19.0	8	0.25	2.1E-04
	8500	0.005	0.139	30	2.3E-05	2.2E+01	19.0	8	0.25	1.1E-04
	14500	0.002	0.139	30	9.3E-06	2.2E+01	19.0	8	0.25	4.2E-05
	22000	0.001	0.139	30	4.6E-06	2.2E+01	19.0	8	0.25	2.1E-05
	35500	0.0005	0.139	30	2.3E-06	2.2E+01	19.0	8	0.25	1.1E-05
	50000+	0.0002	0.139	30	9.3E-07	2.2E+01	19.0	8	0.25	4.2E-06
	50000++	0.0001	0.139	30	4.6E-07	2.2E+01	19.0	8	0.25	2.1E-06
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption										
	6500	0.01	0.0131	1	19.0	8	0.25	2920	2.7E-05	
	8500	0.005	0.0131	1	19.0	8	0.25	2920	1.4E-05	
	14500	0.002	0.0131	1	19.0	8	0.25	2920	5.5E-06	
	22000	0.001	0.0131	1	19.0	8	0.25	2920	2.7E-06	
	35500	0.0005	0.0131	1	19.0	8	0.25	2920	1.4E-06	
	50000+	0.0002	0.0131	1	19.0	8	0.25	2920	5.5E-07	
	50000++	0.0001	0.0131	1	19.0	8	0.25	2920	2.7E-07	

Pasquill Category D

[illegible]

Environmentally Preferred Training Method

Racer intake, EPTM

[illegible]

Pasquill Category B

Racer intake, EPTM

Static Smoke										
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
		Daily IR	Hourly IR	Event IR						
Inhalation										
3500	0.01	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-08	
3500	0.005	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	1.3E-08	
4000	0.002	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	5.1E-09	
5500	0.001	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-09	
7500	0.0005	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	1.3E-09	
12000	0.0002	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	5.1E-10	
18500	0.0001	4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-10	
Distance (m)	Fog Oil Deposition (g/m ³)	Prey Weight (g)	Prey SA (m ²)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Ingestion										
3500	0.01	30	0.139	4.6E-05	2.2E+01	0.9	8	0.25	2920	1.0E-05
4000	0.005	30	0.139	2.3E-05	2.3E+01	0.9	8	0.25	2920	5.4E-06
5500	0.002	30	0.139	9.3E-06	2.4E+01	0.9	8	0.25	2920	2.2E-06
8000	0.001	30	0.139	4.6E-06	2.5E+01	0.9	8	0.25	2920	1.2E-06
12000	0.0005	30	0.139	2.3E-06	2.6E+01	0.9	8	0.25	2920	6.1E-07
24000	0.0002	30	0.139	9.3E-07	2.7E+01	0.9	8	0.25	2920	2.5E-07
40000	0.0001	30	0.139	4.6E-07	2.8E+01	0.9	8	0.25	2920	1.3E-07
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption										
3500	0.01		0.0131	1	0.9	8	0.25	2920	1.3E-06	
4000	0.005		0.0131	1	0.9	8	0.25	2920	6.8E-07	
5500	0.002		0.0131	1	0.9	8	0.25	2920	2.6E-07	
8000	0.001		0.0131	1	0.9	8	0.25	2920	1.3E-07	
12000	0.0005		0.0131	1	0.9	8	0.25	2920	6.8E-08	
24000	0.0002		0.0131	1	0.9	8	0.25	2920	2.6E-08	
40000	0.0001		0.0131	1	0.9	8	0.25	2920	1.3E-08	

Racer Intake, EPTM

Static Smoke																			
	Distance (m)	Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)								
Inhalation				Daily IR	Hourly IR	Event IR													
	3500	0.01		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-08								
	4500	0.005		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	1.3E-08								
	6500	0.002		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	5.1E-09								
	8500	0.001		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-09								
	12500	0.0005		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	1.3E-09								
	22500	0.0002		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	5.1E-10								
	35500	0.0001		4.1E-03	1.7E-04	2.6E-04	0.9	8	0.25	2920	2.6E-10								
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)								
Ingestion																			
	6500	0.01	0.139	30	4.6E-05	2.2E+01	0.9	8	0.25	2920	1.0E-05								
	8500	0.005	0.139	30	2.3E-05	2.3E+01	0.9	8	0.25	2920	5.4E-06								
	14000	0.002	0.139	30	9.3E-06	2.4E+01	0.9	8	0.25	2920	2.2E-06								
	22000	0.001	0.139	30	4.6E-06	2.5E+01	0.9	8	0.25	2920	1.2E-06								
	35500	0.0005	0.139	30	2.3E-06	2.6E+01	0.9	8	0.25	2920	6.1E-07								
	50000+	0.0002	0.139	30	9.3E-07	2.7E+01	0.9	8	0.25	2920	2.5E-07								
	50000++	0.0001	0.139	30	4.6E-07	2.8E+01	0.9	8	0.25	2920	1.3E-07								
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)			ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)								
Dermal Absorption																			
	6500	0.01		0.0131		1	0.9	8	0.25	2920	1.3E-06								
	8500	0.005		0.0131		1	0.9	8	0.25	2920	6.6E-07								
	14000	0.002		0.0131		1	0.9	8	0.25	2920	2.6E-07								
	22000	0.001		0.0131		1	0.9	8	0.25	2920	1.3E-07								
	35500	0.0005		0.0131		1	0.9	8	0.25	2920	6.6E-08								
	50000+	0.0002		0.0131		1	0.9	8	0.25	2920	2.6E-08								
	50000++	0.0001		0.0131		1	0.9	8	0.25	2920	1.3E-08								

Pasquill Category D

[illegible]

Pasquill Category E

[illegible]

Pasquill Category B

Racer intake, EPTM

[illegible]

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Pasquini Category D

[illegible]

[illegible]

Pasquill Category B

[illegible]

Racer intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Intake Rate (m ³ /day)								
			Daily IR	Hourly IR	Event IR						
Inhalation	2500	0.01	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	3.8E-07	
	3000	0.005	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	1.9E-07	
	4500	0.002	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	7.6E-08	
	6000	0.001	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	3.8E-08	
	9500	0.0005	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	1.9E-08	
	16500	0.0002	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	7.6E-09	
	26500	0.0001	4.1E-03	1.7E-04	4.3E-04	8.2	8	0.25	2920	3.8E-09	

Pasquill Category D

[illegible]

Racer intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Inhalation			Daily IR	Hourly IR	Event IR						
	4000	0.01	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	4.8E-07	
	4000	0.005	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	2.4E-07	
	4000	0.002	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	9.6E-08	
	5000	0.001	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	4.8E-08	
	5000	0.0005	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	2.4E-08	
	7000	0.0002	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	9.6E-09	
	9000	0.0001	4.1E-03	1.7E-04	4.3E-04	10.2	8	0.25	2920	4.8E-09	
	Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion											
	4000	0.01	0.139	30	4.6E-05	2.2E+01	10.2	8	0.25	2920	1.1E-04
	5000	0.005	0.139	30	2.3E-05	2.2E+01	10.2	8	0.25	2920	5.7E-05
	6000	0.002	0.139	30	9.3E-06	2.2E+01	10.2	8	0.25	2920	2.3E-05
	7500	0.001	0.139	30	4.6E-06	2.2E+01	10.2	8	0.25	2920	1.1E-05
	9500	0.0005	0.139	30	2.3E-06	2.2E+01	10.2	8	0.25	2920	5.7E-06
	14500	0.0002	0.139	30	9.3E-07	2.2E+01	10.2	8	0.25	2920	2.3E-06
	20000	0.0001	0.139	30	4.6E-07	2.2E+01	10.2	8	0.25	2920	1.1E-06
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	4000	0.01		0.0131	1	10.2	8	0.25	2920	1.5E-05	
	5000	0.005		0.0131	1	10.2	8	0.25	2920	7.3E-06	
	6000	0.002		0.0131	1	10.2	8	0.25	2920	2.9E-06	
	7500	0.001		0.0131	1	10.2	8	0.25	2920	1.5E-06	
	9500	0.0005		0.0131	1	10.2	8	0.25	2920	7.3E-07	
	14500	0.0002		0.0131	1	10.2	8	0.25	2920	2.9E-07	
	20000	0.0001		0.0131	1	10.2	8	0.25	2920	1.5E-07	

Pasquill Category B

Racer intake, EPTM

[illegible]

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Pasquill Category D

[illegible]

Pasquill Category E

Racer intake, EPTM

[illegible]

Pasquini Category B

[illegible]

[illegible]

Pasquill Category D

Racer intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
		Daily IR	Hourly IR						
Inhalation									
	3000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	5.7E-07
	4000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	2.9E-07
	7000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	1.1E-07
	10000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	5.7E-08
	16000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	2.9E-08
	30000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	1.1E-08
	50000	4.1E-03	1.7E-04	4.3E-04	12.3	8	0.25	2920	5.7E-09
Ingestion									
	7500	0.139	4.6E-05	2.2E+01	12.3	8	0.25	2920	1.4E-04
	10000	0.005	2.3E-05	2.2E+01	12.3	8	0.25	2920	6.8E-05
	18000	0.002	9.3E-06	2.2E+01	12.3	8	0.25	2920	2.7E-05
	30000	0.001	4.6E-06	2.2E+01	12.3	8	0.25	2920	1.4E-05
	50000	0.0005	2.3E-06	2.2E+01	12.3	8	0.25	2920	6.8E-06
	50000++	0.0002	9.3E-07	2.2E+01	12.3	8	0.25	2920	2.7E-06
	50000++	0.0001	4.6E-07	2.2E+01	12.3	8	0.25	2920	1.4E-06
Dermal Absorption									
	7500	0.01	0.0131	1	12.3	8	0.25	2920	1.8E-05
	10000	0.005	0.0131	1	12.3	8	0.25	2920	8.8E-06
	18000	0.002	0.0131	1	12.3	8	0.25	2920	3.5E-06
	30000	0.001	0.0131	1	12.3	8	0.25	2920	1.8E-06
	50000	0.0005	0.0131	1	12.3	8	0.25	2920	8.8E-07
	50000++	0.0002	0.0131	1	12.3	8	0.25	2920	3.5E-07
	50000++	0.0001	0.0131	1	12.3	8	0.25	2920	1.8E-07

Pasquill Category E

Appendix V
Risk Characterization Tables for Yellowbelly
Racer

APPENDIX V:

Risk Characterization Tables for Yellowbelly Racer

RISK PARAMETERS FOR YELLOWBELLY RACERS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Relocate Current Practice

Racer risk, RCP

Static Smoke														
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Inhalation	4000	1.0E-02	4.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.8E-01	No	No
	4000	5.0E-03	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	9.1E-02	No	No
	5000	2.0E-03	9.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.7E-02	No	No
	5000	1.0E-03	4.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.8E-02	No	No
	6000	5.0E-04	2.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	9.1E-03	No	No
	8000	2.0E-04	9.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.7E-03	No	No
	12000	1.0E-04	4.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	4000	4.6E-05	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	1.4E-02	1.4E-02	No	No
	5000	2.3E-05	9.7E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	7.1E-03	7.1E-03	No	No
	6000	9.3E-06	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	3.0E-03	3.0E-03	No	No
	7000	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06	1.5E-03	1.5E-03	No	No
	9500	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	8.0E-04	8.0E-04	No	No
	14000	9.3E-07	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	3.3E-04	3.3E-04	No	No
	20000	4.6E-07	2.4E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	1.7E-04	1.7E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	6.0E-02	6.0E-02	1.8E-05	No	No
	5000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	4.0E-02	4.0E-02	8.9E-06	No	No
	6000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.6E-02	1.6E-02	3.5E-06	No	No
	7000	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-03	8.0E-03	1.8E-06	No	No
	9500	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	4.0E-03	4.0E-03	8.9E-07	No	No
	14000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.6E-03	1.6E-03	3.5E-07	No	No
20000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-04	8.0E-04	1.8E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, RCP

Static Smoke		Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation		3500	1.0E-02	4.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.8E-01	No	No
		3500	5.0E-03	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	9.1E-02	No	No
		4000	2.0E-03	9.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.7E-02	No	No
		5500	1.0E-03	4.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.8E-02	No	No
		7500	5.0E-04	2.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	9.1E-03	No	No
		12000	2.0E-04	9.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.7E-03	No	No
		18500	1.0E-04	4.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
		Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion		3500	4.6E-05	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.4E-02	No	No
		4000	2.3E-05	9.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	7.1E-03	No	No
		5500	9.3E-06	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	3.0E-03	No	No
		8000	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.5E-03	No	No
		12000	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	8.0E-04	No	No
		24000	9.3E-07	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	3.3E-04	No	No
		40000	4.6E-07	2.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.7E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
		Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption		3500	1.0E-02	2.4E-05	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-02	1.8E-05	No	No
		4000	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E-00	1.4E-00	4.0E-02	8.9E-06	No	No
		5500	2.0E-03	4.8E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	1.6E-02	3.5E-06	No	No
		8000	1.0E-03	2.4E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-03	1.8E-06	No	No
		12000	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	4.0E-03	8.9E-07	No	No
		24000	2.0E-04	4.8E-07	2	216	16	160	0.13	1.4E-00	1.4E-00	1.6E-03	3.5E-07	No	No
		40000	1.0E-04	2.4E-07	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-04	1.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Racer risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	4.7E-07	60	0.1	16		160	3.75	2.8E-06	2.7E-03	1.8E-01	No	No
	4500	5.0E-03	2.3E-07	60	0.1	16		160	3.75	2.8E-06	1.3E-03	9.1E-02	No	No
	6500	2.0E-03	9.4E-08	60	0.1	16		160	3.75	2.8E-06	5.3E-04	3.7E-02	No	No
	8500	1.0E-03	4.7E-08	60	0.1	16		160	3.75	2.8E-06	2.7E-04	1.8E-02	No	No
	12500	5.0E-04	2.3E-08	60	0.1	16		160	3.75	2.8E-06	1.3E-04	9.1E-03	No	No
	22500	2.0E-04	9.4E-09	60	0.1	16		160	3.75	2.8E-06	5.3E-05	3.7E-03	No	No
	35500	1.0E-04	4.7E-09	60	0.1	16		160	3.75	2.8E-06	2.7E-05	1.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	6500	4.6E-05	1.9E-04	17.6	22	16		1600	1.10	1.4E-02	4.2E-05	1.4E-02	No	No
	8500	2.3E-05	9.7E-05	17.6	22	16		1600	1.10	1.4E-02	2.1E-05	7.1E-03	No	No
	14000	9.3E-06	4.1E-05	17.6	22	16		1600	1.10	1.4E-02	8.4E-06	3.0E-03	No	No
	22000	4.6E-06	2.1E-05	17.6	22	16		1600	1.10	1.4E-02	4.2E-06	1.5E-03	No	No
	35500	2.3E-06	1.1E-05	17.6	22	16		1600	1.10	1.4E-02	2.1E-06	8.0E-04	No	No
	50000+	9.3E-07	4.6E-06	17.6	22	16		1600	1.10	1.4E-02	8.4E-07	3.3E-04	No	No
	50000++	4.6E-07	2.4E-06	17.6	22	16		1600	1.10	1.4E-02	4.2E-07	1.7E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramechani 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	6500	1.0E-02	2.4E-05	2	216	16		160	0.13	1.4E+00	8.0E-02	1.8E-05	No	No
	8500	5.0E-03	1.2E-05	2	216	16		160	0.13	1.4E+00	4.0E-02	8.9E-06	No	No
	14000	2.0E-03	4.8E-06	2	216	16		160	0.13	1.4E+00	1.6E-02	3.5E-06	No	No
	22000	1.0E-03	2.4E-06	2	216	16		160	0.13	1.4E+00	8.0E-03	1.8E-06	No	No
	35500	5.0E-04	1.2E-06	2	216	16		160	0.13	1.4E+00	4.0E-03	8.9E-07	No	No
	50000+	2.0E-04	4.8E-07	2	216	16		160	0.13	1.4E+00	1.6E-03	3.5E-07	No	No
	50000++	1.0E-04	2.4E-07	2	216	16		160	0.13	1.4E+00	8.0E-04	1.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, RCP

Static Smoke														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	4.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.8E-01	No	No
	5000	5.0E-03	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	9.1E-02	No	No
	9000	2.0E-03	9.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.7E-02	No	No
	14000	1.0E-03	4.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.8E-02	No	No
	24000	5.0E-04	2.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	9.1E-03	No	No
	50000	2.0E-04	9.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.7E-03	No	No
	50000+	1.0E-04	4.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	7500	4.6E-05	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	1.4E-02	1.4E-02	No	No
	10000	2.3E-05	9.7E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	7.1E-03	7.1E-03	No	No
	18000	9.3E-06	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	3.0E-03	3.0E-03	No	No
	30000	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06	1.5E-03	1.5E-03	No	No
	50000	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	8.0E-04	8.0E-04	No	No
	50000+	9.3E-07	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	3.3E-04	3.3E-04	No	No
	50000++	4.6E-07	2.4E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	1.7E-04	1.7E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Dermal Absorption	7500	1.0E-02	2.4E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	1.8E-05	1.8E-05	No	No
	10000	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	9.1E-06	9.1E-06	No	No
	18000	2.0E-03	4.8E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	3.5E-06	3.5E-06	No	No
	30000	1.0E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	1.8E-06	1.8E-06	No	No
	50000	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	8.9E-07	8.9E-07	No	No
	50000+	2.0E-04	4.8E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	3.5E-07	3.5E-07	No	No
	50000++	1.0E-04	2.4E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.8E-07	1.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, RCP

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	6.4E-01	No	No
4000	5.0E-03	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	3.2E-01	No	No
4000	2.0E-03	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	1.3E-01	No	No
5000	1.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	6.4E-02	No	No
5000	5.0E-04	8.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	3.2E-02	No	No
7000	2.0E-04	3.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	1.3E-02	No	No
9000	1.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	6.4E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	4.6E-05	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.9E-02	No	No
5000	2.3E-05	2.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.4E-02	No	No
6000	9.3E-06	7.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	5.7E-03	No	No
7500	4.6E-06	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.9E-03	No	No
9500	2.3E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.4E-03	No	No
14500	9.3E-07	7.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	5.7E-04	No	No
20000	4.6E-07	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.7E-05	No	No
5000	5.0E-03	5000	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.9E-05	No	No
6000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	7.5E-06	No	No
7500	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.7E-06	No	No
9500	5.0E-04	9500	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.9E-06	No	No
14500	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	7.5E-07	No	No
20000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.6E-06	60	0.1	16	16	160	3.75	2.8E-06	2.7E-03	6.4E-01	No	No
4000	5.0E-03	6.2E-07	60	0.1	16	16	160	3.75	2.8E-06	1.3E-03	3.2E-01	No	No
5000	2.0E-03	3.3E-07	60	0.1	16	16	160	3.75	2.8E-06	5.3E-04	1.3E-01	No	No
6500	1.0E-03	1.6E-07	60	0.1	16	16	160	3.75	2.8E-06	2.7E-04	6.4E-02	No	No
8500	5.0E-04	6.2E-08	60	0.1	16	16	160	3.75	2.8E-06	1.3E-04	3.2E-02	No	No
9500	2.0E-04	3.3E-08	60	0.1	16	16	160	3.75	2.8E-06	5.3E-05	1.3E-02	No	No
14000	1.0E-04	1.6E-08	60	0.1	16	16	160	3.75	2.8E-06	2.7E-05	6.4E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1997													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.8E-05	3.9E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	2.9E-02	No	No
4000	2.3E-05	2.0E-04	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	1.4E-02	No	No
5000	9.3E-06	7.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	5.7E-03	No	No
8500	4.8E-06	3.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	2.9E-03	No	No
12000	2.3E-06	2.0E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	1.4E-03	No	No
24000	9.3E-07	7.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	5.7E-04	No	No
40000	4.8E-07	3.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	2.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.3E-02	2	216	16	16	160	0.13	1.4E+00	8.0E-02	3.7E-05	No	No
4000	5.0E-03	2.5E-05	2	216	16	16	160	0.13	1.4E+00	4.0E-02	1.9E-05	No	No
5000	2.0E-03	1.0E-05	2	216	16	16	160	0.13	1.4E+00	1.6E-02	7.5E-06	No	No
8500	1.0E-03	5.0E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-03	3.7E-06	No	No
12000	5.0E-04	2.5E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-03	1.9E-06	No	No
24000	2.0E-04	1.0E-06	2	216	16	16	160	0.13	1.4E+00	1.6E-03	7.5E-07	No	No
40000	1.0E-04	5.0E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-04	3.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	6.4E-01	No	No
3000	5.0E-03	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	3.2E-01	No	No
4500	2.0E-03	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	1.3E-01	No	No
6000	1.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	6.4E-02	No	No
9500	5.0E-04	8.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	3.2E-02	No	No
16500	2.0E-04	3.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	1.3E-02	No	No
26500	1.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	6.4E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shenn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	4.6E-05	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.9E-02	No	No
8500	2.3E-05	2.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.4E-02	No	No
14500	9.3E-06	7.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	5.7E-03	No	No
22000	4.6E-06	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.9E-03	No	No
35500	2.3E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.4E-03	No	No
50000+	9.3E-07	7.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	5.7E-04	No	No
50000++	4.6E-07	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramschian 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	5.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.7E-05	No	No
8500	5.0E-03	2.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.9E-05	No	No
14500	2.0E-03	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	7.5E-06	No	No
22000	1.0E-03	5.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.7E-06	No	No
35500	5.0E-04	2.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.9E-06	No	No
50000+	2.0E-04	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	7.5E-07	No	No
50000++	1.0E-04	5.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	6.4E-01	No
	4000	5.0E-03	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	3.2E-01	No
	7000	2.0E-03	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	1.3E-01	No
	10000	1.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	6.4E-02	No
	16000	5.0E-04	8.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	3.2E-02	No
	30000	2.0E-04	3.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	1.3E-02	No
	50000	1.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	6.4E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987.													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992.													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	4.6E-05	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.9E-02	No
	10000	2.3E-05	2.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.4E-02	No
	18000	9.3E-06	7.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	5.7E-03	No
	30000	4.6E-06	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.9E-03	No
	50000	2.3E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.4E-03	No
	50000+	9.3E-07	7.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	5.7E-04	No
	50000++	4.6E-07	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.9E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958.													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989.													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	5.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.7E-05	No
	10000	5.0E-03	2.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.9E-05	No
	18000	2.0E-03	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	7.5E-06	No
	30000	1.0E-03	5.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.7E-06	No
	50000	5.0E-04	2.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.9E-06	No
	50000+	2.0E-04	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	7.5E-07	No
	50000++	1.0E-04	5.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.7E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990.													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989.													

Mobile Smoke - Ballard Hollow or Wolf Hollow		Critical Study: Driver et al. 1992										Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	6.2E-07	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	3.2E-01	No	No
	4000	5.0E-03	4.1E-07	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.6E-01	No	No
	4000	2.0E-03	1.6E-07	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	8.4E-02	No	No
	5000	1.0E-03	8.2E-08	60	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	3.2E-02	No	No
	5000	5.0E-04	4.1E-08	60	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.6E-02	No	No
	7000	2.0E-04	1.6E-08	0.1	18	160	3.75	6.3E-04	2.6E-06	5.3E-05	6.4E-03	No	No
	9000	1.0E-04	8.2E-09	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	3.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	4000	4.8E-05	2.0E-04	17.6	16	1600	1.10	1.4E-02	4.2E-05	1.4E-02	1.4E-02	No	No
	5000	2.3E-05	9.8E-05	17.6	16	1600	1.10	1.4E-02	2.1E-05	7.1E-03	2.9E-03	No	No
	6000	9.3E-06	3.9E-05	17.6	22	1600	1.10	1.4E-02	6.4E-06	2.1E-03	2.9E-03	No	No
	7500	4.8E-06	2.0E-05	17.6	22	1600	1.10	1.4E-02	4.2E-06	1.4E-03	1.4E-03	No	No
	9500	2.3E-06	9.8E-06	17.6	22	1600	1.10	1.4E-02	2.1E-06	7.1E-04	2.9E-04	No	No
	14500	9.3E-07	3.9E-06	17.6	16	1600	1.10	1.4E-02	6.4E-07	2.9E-04	2.9E-04	No	No
	20000	4.8E-07	2.0E-06	17.6	22	1600	1.10	1.4E-02	4.2E-07	1.4E-04	1.4E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacheri 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Dermal Absorption	4000	1.0E-02	2.5E-05	2	16	160	0.13	1.4E+00	8.0E-02	1.9E-05	1.9E-05	No	No
	5000	5.0E-03	1.3E-02	216	16	160	0.13	1.4E+00	4.0E-02	9.3E-06	9.3E-06	No	No
	6000	2.0E-03	5.0E-06	2	16	160	0.13	1.4E+00	1.6E-02	3.7E-06	3.7E-06	No	No
	7500	1.0E-03	2.5E-06	2	216	160	0.13	1.4E+00	8.0E-03	1.9E-06	1.9E-06	No	No
	9500	5.0E-04	1.3E-06	2	216	160	0.13	1.4E+00	4.0E-03	9.3E-07	9.3E-07	No	No
	14500	2.0E-04	5.0E-07	2	16	160	0.13	1.4E+00	1.6E-03	3.7E-07	3.7E-07	No	No
	20000	1.0E-04	2.5E-07	2	16	160	0.13	1.4E+00	8.0E-04	1.9E-07	1.9E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	3.2E-01	No	No
	3000	5.0E-03	4.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.6E-01	No	No
	3000	2.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	6.4E-02	No	No
	4500	1.0E-03	8.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	3.2E-02	No	No
	6500	5.0E-04	4.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.6E-02	No	No
	9500	2.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	6.4E-03	No	No
	14000	1.0E-04	8.2E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	3.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	3000	4.6E-05	2.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.4E-02	No	No
	4000	2.3E-05	9.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	7.1E-03	No	No
	5000	9.3E-06	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.9E-03	No	No
	8500	4.6E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.4E-03	No	No
	12000	2.3E-06	9.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	7.1E-04	No	No
	24000	9.3E-07	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.9E-04	No	No
	40000	4.6E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.4E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	3000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.9E-05	No	No
	4000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	9.3E-06	No	No
	5000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.7E-06	No	No
	8500	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.9E-06	No	No
	12000	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	9.3E-07	No	No
	24000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.7E-07	No	No
	40000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.9E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)		Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Inhalation																											
	3000	1.0E-02		8.2E-07		60		0.1		16		16		3.75		6.3E-04		2.6E-06		2.7E-03		3.2E-01		No		No	
	4000	5.0E-03		4.1E-07		60		0.1		16		16		3.75		6.3E-04		2.6E-06		1.3E-03		1.6E-01		No		No	
	7000	2.0E-03		1.6E-07		60		0.1		16		16		3.75		6.3E-04		2.6E-06		5.3E-04		6.4E-02		No		No	
	10000	1.0E-03		8.2E-08		60		0.1		16		16		3.75		6.3E-04		2.6E-06		2.7E-04		3.2E-02		No		No	
	16000	5.0E-04		4.1E-08		60		0.1		16		16		3.75		6.3E-04		2.6E-06		1.3E-04		1.6E-02		No		No	
	30000	2.0E-04		1.6E-08		60		0.1		16		16		3.75		6.3E-04		2.6E-06		5.3E-05		6.4E-03		No		No	
	50000	1.0E-04		8.2E-09		60		0.1		16		16		3.75		6.3E-04		2.6E-06		2.7E-05		3.2E-03		No		No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																											
Ingestion																											
	7500	4.8E-05		2.0E-04		17.6		22		16		16		1.10		1.4E-02		1.4E-02		4.2E-05		1.4E-02		No		No	
	10000	2.3E-05		9.8E-05		17.6		22		16		16		1.10		1.4E-02		1.4E-02		2.1E-05		7.1E-03		No		No	
	18000	9.3E-06		3.9E-05		17.6		22		16		16		1.10		1.4E-02		1.4E-02		8.4E-06		2.9E-03		No		No	
	30000	4.8E-06		2.0E-05		17.6		22		16		16		1.10		1.4E-02		1.4E-02		4.2E-06		1.4E-03		No		No	
	50000	2.3E-06		9.8E-06		17.6		22		16		16		1.10		1.4E-02		1.4E-02		2.1E-06		7.1E-04		No		No	
	50000+	9.3E-07		3.9E-06		17.6		22		16		16		1.10		1.4E-02		1.4E-02		8.4E-07		2.9E-04		No		No	
	50000++	4.8E-07		2.0E-06		17.6		22		16		16		1.10		1.4E-02		1.4E-02		4.2E-07		1.4E-04		No		No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechari 1958																											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																											
Dermal Absorption																											
	7500	1.0E-02	0.0131	2.5E-05		2		216		16		16		0.13		1.4E+00		1.4E+00		8.0E-02		1.9E-05		No		No	
	10000	5.0E-03	0.0131	1.3E-05		2		216		16		16		0.13		1.4E+00		1.4E+00		4.0E-02		9.3E-06		No		No	
	18000	2.0E-03	0.0131	5.0E-06		2		216		16		16		0.13		1.4E+00		1.4E+00		1.6E-02		3.7E-06		No		No	
	30000	1.0E-03	0.0131	2.5E-06		2		216		16		16		0.13		1.4E+00		1.4E+00		8.0E-03		1.9E-06		No		No	
	50000	5.0E-04	0.0131	1.3E-06		2		216		16		16		0.13		1.4E+00		1.4E+00		4.0E-03		9.3E-07		No		No	
	50000+	2.0E-04	0.0131	5.0E-07		2		216		16		16		0.13		1.4E+00		1.4E+00		1.6E-03		3.7E-07		No		No	
	50000++	1.0E-04	0.0131	2.5E-07		2		216		16		16		0.13		1.4E+00		1.4E+00		8.0E-04		1.9E-07		No		No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																											

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	1.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	4.0E-01	No	No
	4000	5.0E-03	5.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.0E-01	No	No
	4000	2.0E-03	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	8.0E-02	No	No
	5000	1.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.0E-02	No	No
	5000	5.0E-04	5.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.0E-02	No	No
	7000	2.0E-04	2.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	8.0E-03	No	No
	9000	1.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.0E-03	No	No
	*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	4.6E-05	2.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.8E-02	No	No
	5000	2.3E-05	1.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	8.9E-03	No	No
	6000	9.3E-06	4.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	3.9E-03	No	No
	7500	4.6E-06	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.8E-03	No	No
	9500	2.3E-06	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	8.9E-04	No	No
	14500	9.3E-07	4.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	3.9E-04	No	No
	20000	4.6E-07	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.8E-04	No	No
	*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-05	No	No
	5000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
	6000	2.0E-03	6.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.7E-06	No	No
	7500	1.0E-03	3.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-06	No	No
	9500	5.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
	14500	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.7E-07	No	No
20000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	1.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06
3000	5.0E-03	5.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
3000	2.0E-03	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4500	1.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
6500	5.0E-04	5.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9500	2.0E-04	2.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
14000	1.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
3000	4.6E-05	2.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
4000	2.3E-05	1.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
5000	9.3E-06	4.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
8500	4.6E-06	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
12000	2.3E-06	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
24000	9.3E-07	4.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
40000	4.6E-07	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
3000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
4000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
5000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
8500	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
12000	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
24000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
40000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Racer risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	2500	1.0E-02	1.0E-06	60	0.1	16	16	160	3.75
	3000	5.0E-03	5.1E-07	60	0.1	16	16	160	3.75
	4500	2.0E-03	2.1E-07	60	0.1	16	16	160	3.75
	6000	1.0E-03	1.0E-07	60	0.1	16	16	160	3.75
	9500	5.0E-04	5.1E-08	60	0.1	16	16	160	3.75
	16500	2.0E-04	2.1E-08	60	0.1	16	16	160	3.75
	26500	1.0E-04	1.0E-08	60	0.1	16	16	160	3.75
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
	6500	4.6E-05	2.5E-04	17.6	22	16	16	1600	1.10
	8500	2.3E-05	1.2E-04	17.6	22	16	16	1600	1.10
	14500	9.3E-06	4.9E-05	17.6	22	16	16	1600	1.10
	22000	4.6E-06	2.5E-05	17.6	22	16	16	1600	1.10
	35500	2.3E-06	1.2E-05	17.6	22	16	16	1600	1.10
	50000+	9.3E-07	4.9E-06	17.6	22	16	16	1600	1.10
	50000++	4.6E-07	2.5E-06	17.6	22	16	16	1600	1.10
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	6500	1.0E-02	1.3E-02	2	216	16	16	160	0.13
	8500	5.0E-03	1.3E-02	2	216	16	16	160	0.13
	14500	2.0E-03	1.3E-02	2	216	16	16	160	0.13
	22000	1.0E-03	1.3E-02	2	216	16	16	160	0.13
	35500	5.0E-04	1.3E-02	2	216	16	16	160	0.13
	50000+	2.0E-04	1.3E-02	2	216	16	16	160	0.13
	50000++	1.0E-04	1.3E-02	2	216	16	16	160	0.13
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	6500	1.0E-02	1.3E-02	2	216	16	16	160	0.13
	8500	5.0E-03	1.3E-02	2	216	16	16	160	0.13
	14500	2.0E-03	1.3E-02	2	216	16	16	160	0.13
	22000	1.0E-03	1.3E-02	2	216	16	16	160	0.13
	35500	5.0E-04	1.3E-02	2	216	16	16	160	0.13
	50000+	2.0E-04	1.3E-02	2	216	16	16	160	0.13
	50000++	1.0E-04	1.3E-02	2	216	16	16	160	0.13

Racer risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	1.0E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-06
4000	5.0E-03	5.1E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06
7000	2.0E-03	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06
10000	1.0E-03	1.0E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06
16000	5.0E-04	5.1E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06
30000	2.0E-04	2.1E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06
50000	1.0E-04	1.0E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
7500	4.6E-05	2.5E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
10000	2.3E-05	1.2E-04	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
18000	9.3E-06	4.9E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
30000	4.6E-06	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
50000	2.3E-06	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
50000+	9.3E-07	4.9E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
50000++	4.6E-07	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
7500	1.0E-02	3.2E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
10000	5.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
18000	2.0E-03	6.3E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
30000	1.0E-03	3.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
50000	5.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
50000+	2.0E-04	6.3E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
50000++	1.0E-04	3.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Bailey McCann Hollow and Babb Airfield														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	4.8E-01	No	No
	4000	5.0E-03	6.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.4E-01	No	No
	4000	2.0E-03	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	9.6E-02	No	No
	5000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.8E-02	No	No
	5000	5.0E-04	6.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.4E-02	No	No
	7000	2.0E-04	2.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	9.6E-03	No	No
	9000	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	4.6E-05	2.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No	No
	5000	2.3E-05	1.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.1E-02	No	No
	6000	9.3E-06	5.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.3E-03	No	No
	7500	4.6E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No	No
	9500	2.3E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.1E-03	No	No
	14500	9.3E-07	5.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.3E-04	No	No
	20000	4.6E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.3E-02	3.8E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	2.8E-05	No	No
	5000	5.0E-03	1.3E-02	1.9E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	1.4E-05	No	No
	6000	2.0E-03	1.3E-02	7.6E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	5.6E-06	No	No
	7500	1.0E-03	1.3E-02	3.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	2.8E-06	No	No
	9500	5.0E-04	1.3E-02	1.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	1.4E-06	No	No
	14500	2.0E-04	1.3E-02	7.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	5.6E-07	No	No
	20000	1.0E-04	1.3E-02	3.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	2.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.2E-06	60	0.1	16	16	160	3.75	2.6E-06	2.7E-03	4.8E-01	No	No
3000	5.0E-03	6.2E-07	60	0.1	16	16	160	3.75	2.6E-06	1.3E-03	2.4E-01	No	No
3000	2.0E-03	2.5E-07	60	0.1	16	16	160	3.75	2.6E-06	5.3E-04	9.6E-02	No	No
4500	1.0E-03	1.2E-07	60	0.1	16	16	160	3.75	2.6E-06	2.7E-04	4.8E-02	No	No
6500	5.0E-04	6.2E-08	60	0.1	16	16	160	3.75	2.6E-06	1.3E-04	2.4E-02	No	No
9500	2.0E-04	2.5E-08	60	0.1	16	16	160	3.75	2.6E-06	5.3E-05	9.6E-03	No	No
14000	1.0E-04	1.2E-08	60	0.1	16	16	160	3.75	2.6E-06	2.7E-05	4.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.6E-05	2.9E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	2.1E-02	No	No
4000	2.3E-05	1.5E-04	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	1.1E-02	No	No
5000	9.3E-06	5.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	4.3E-03	No	No
8500	4.6E-06	2.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	2.1E-03	No	No
12000	2.3E-06	1.5E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	1.1E-03	No	No
24000	9.3E-07	5.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	4.3E-04	No	No
40000	4.6E-07	2.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.3E-02	2	216	16	16	160	0.13	1.4E+00	6.0E-02	2.8E-05	No	No
4000	5.0E-03	1.3E-02	2	216	16	16	160	0.13	1.4E+00	4.0E-02	1.4E-05	No	No
5000	2.0E-03	7.6E-08	2	216	16	16	160	0.13	1.4E+00	1.6E-02	5.6E-06	No	No
8500	1.0E-03	3.8E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-03	2.8E-06	No	No
12000	5.0E-04	1.9E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-03	1.4E-06	No	No
24000	2.0E-04	7.6E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-03	5.6E-07	No	No
40000	1.0E-04	3.8E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-04	2.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey, McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	4.8E-01	No	No
3000	5.0E-03	6.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.4E-01	No	No
4500	2.0E-03	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	9.6E-02	No	No
6000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.8E-02	No	No
9500	5.0E-04	6.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.4E-02	No	No
16500	2.0E-04	2.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	9.6E-03	No	No
26500	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	4.0E-05	2.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No	No
8500	2.3E-05	1.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.1E-02	No	No
14500	9.3E-06	5.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.3E-03	No	No
22000	4.8E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No	No
35500	2.3E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.1E-03	No	No
50000+	9.3E-07	5.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.3E-04	No	No
50000++	4.8E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	3.9E-05	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-02	2.8E-05	No	No
8500	5.0E-03	1.9E-05	2	216	16	160	0.13	1.4E-00	1.4E-00	4.0E-02	1.4E-05	No	No
14500	2.0E-03	7.6E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	1.6E-02	5.6E-06	No	No
22000	1.0E-03	3.8E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-03	2.8E-06	No	No
35500	5.0E-04	1.9E-06	2	216	16	160	0.13	1.4E-00	1.4E-00	4.0E-03	1.4E-06	No	No
50000+	2.0E-04	7.6E-07	2	216	16	160	0.13	1.4E-00	1.4E-00	1.6E-03	5.6E-07	No	No
50000++	1.0E-04	3.8E-07	2	216	16	160	0.13	1.4E-00	1.4E-00	8.0E-04	2.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-08	2.7E-03	4.8E-01	No
	4000	5.0E-03	6.2E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-08	1.3E-03	2.4E-01	No
	7000	2.0E-03	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-08	5.3E-04	9.6E-02	No
	10000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-08	2.7E-04	4.8E-02	No
	16000	5.0E-04	6.2E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-08	1.3E-04	2.4E-02	No
	30000	2.0E-04	2.5E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-08	5.3E-05	9.6E-03	No
	50000	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-08	2.7E-05	4.8E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	4.6E-05	2.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No
	10000	2.3E-05	1.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.1E-02	No
	18000	9.3E-06	5.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.3E-03	No
	30000	4.6E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No
	50000	2.3E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.1E-03	No
	50000+	9.3E-07	5.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.3E-04	No
	50000++	4.6E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	3.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.8E-05	No
	10000	5.0E-03	1.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.4E-05	No
	18000	2.0E-03	7.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.8E-06	No
	30000	1.0E-03	3.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.8E-06	No
	50000	5.0E-04	1.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.4E-06	No
	50000+	2.0E-04	7.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.8E-07	No
	50000++	1.0E-04	3.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.8E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Operationally Preferred Training Method

Racer risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	2.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	7.8E-02	No	No
	4000	5.0E-03	9.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	3.9E-02	No	No
	5000	2.0E-03	4.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	1.6E-02	No	No
	5000	1.0E-03	2.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	7.8E-03	No	No
	6000	5.0E-04	9.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	3.9E-03	No	No
	8000	2.0E-04	4.0E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	1.6E-03	No	No
	12000	1.0E-04	2.0E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	7.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	4.8E-05	7.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	5.8E-03	No	No
	5000	2.3E-05	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.0E-03	No	No
	6000	9.3E-06	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.3E-03	No	No
	7000	4.8E-06	9.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	6.5E-04	No	No
	9500	2.3E-06	4.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.4E-04	No	No
	14000	9.3E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.4E-04	No	No
	20000	4.8E-07	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	7.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	1.0E-02	1.3E-02	1.0E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	7.5E-08	No	No
	5000	5.0E-03	1.3E-02	5.1E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	3.8E-08	No	No
	6000	2.0E-03	1.3E-02	2.0E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.5E-08	No	No
	7000	1.0E-03	1.3E-02	1.0E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	7.5E-07	No	No
	9500	5.0E-04	1.3E-02	5.1E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	3.8E-07	No	No
	14000	2.0E-04	1.3E-02	2.0E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.5E-07	No	No
	20000	1.0E-04	1.3E-02	1.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	7.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	2.0E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-03	7.8E-02	No	No
	3500	5.0E-03	9.9E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	1.3E-03	3.9E-02	No	No
	4000	2.0E-03	4.0E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	5.3E-04	1.6E-02	No	No
	5500	1.0E-03	2.0E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-04	7.8E-03	No	No
	7500	5.0E-04	9.9E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-06	1.3E-04	3.9E-03	No	No
	12000	2.0E-04	4.0E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-06	5.3E-05	1.6E-03	No	No
	18500	1.0E-04	2.0E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-05	7.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	3500	4.8E-05	7.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.3E-05	5.8E-03	No	No
	4000	2.3E-05	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.0E-03	No	No
	5500	9.3E-06	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.3E-03	No	No
	8000	4.6E-06	9.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	6.5E-04	No	No
	12000	2.3E-06	4.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.4E-04	No	No
	24000	9.3E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.4E-04	No	No
	40000	4.6E-07	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	7.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	3500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.5E-06	No	No
	4000	5.0E-03	5.1E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.8E-06	No	No
	5500	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-06	No	No
	8000	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.5E-07	No	No
	12000	5.0E-04	5.1E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.8E-07	No	No
	24000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-07	No	No
	40000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Static Smoke														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	2.0E-07	60	0.1	16		160	3.75	2.6E-06	2.7E-03	7.8E-02	No	No
	4500	5.0E-03	9.9E-08	60	0.1	16		160	3.75	2.6E-06	1.3E-03	3.9E-02	No	No
	6500	2.0E-03	4.0E-08	60	0.1	16		160	3.75	2.6E-06	5.3E-04	1.6E-02	No	No
	8500	1.0E-03	2.0E-08	60	0.1	16		160	3.75	2.6E-06	2.7E-04	7.8E-03	No	No
	12500	5.0E-04	9.9E-09	60	0.1	16		160	3.75	2.6E-06	1.3E-04	3.9E-03	No	No
	22500	2.0E-04	4.0E-09	60	0.1	16		160	3.75	2.6E-06	5.3E-05	1.6E-03	No	No
	35500	1.0E-04	2.0E-09	60	0.1	16		160	3.75	2.6E-06	2.7E-05	7.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	4.6E-05	7.9E-05	17.6	22	16		1600	1.10	1.4E-02	4.2E-05	5.8E-03	No	No
	8500	2.3E-05	4.1E-05	17.6	22	16		1600	1.10	1.4E-02	2.1E-05	3.0E-03	No	No
	14000	9.3E-06	1.7E-05	17.6	22	16		1600	1.10	1.4E-02	8.4E-06	1.3E-03	No	No
	22000	4.6E-06	9.0E-06	17.6	22	16		1600	1.10	1.4E-02	4.2E-06	6.5E-04	No	No
	35500	2.3E-06	4.7E-06	17.6	22	16		1600	1.10	1.4E-02	2.1E-06	3.4E-04	No	No
	50000+	9.3E-07	1.9E-06	17.6	22	16		1600	1.10	1.4E-02	8.4E-07	1.4E-04	No	No
	50000++	4.6E-07	1.0E-06	17.6	22	16		1600	1.10	1.4E-02	4.2E-07	7.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	1.0E-05	2	216	16		160	0.13	1.4E+00	8.0E-02	7.5E-06	No	No
	8500	5.0E-03	5.1E-06	2	216	16		160	0.13	1.4E+00	4.0E-02	3.8E-06	No	No
	14000	2.0E-03	2.0E-06	2	216	16		160	0.13	1.4E+00	1.6E-02	1.5E-06	No	No
	22000	1.0E-03	1.0E-06	2	216	16		160	0.13	1.4E+00	8.0E-03	7.5E-07	No	No
	35500	5.0E-04	5.1E-07	2	216	16		160	0.13	1.4E+00	4.0E-03	3.8E-07	No	No
	50000+	2.0E-04	2.0E-07	2	216	16		160	0.13	1.4E+00	1.6E-03	1.5E-07	No	No
	50000++	1.0E-04	1.0E-07	2	216	16		160	0.13	1.4E+00	8.0E-04	7.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	2.0E-07	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-03	7.8E-02	No	No
	5000	5.0E-03	9.9E-08	60	0.1	16	16	160	6.3E-04	2.6E-06	1.3E-03	3.9E-02	No	No
	9000	2.0E-03	4.0E-08	60	0.1	16	16	160	6.3E-04	2.6E-06	5.3E-04	1.6E-02	No	No
	14000	1.0E-03	2.0E-08	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-04	7.8E-03	No	No
	24000	5.0E-04	9.9E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	1.3E-04	3.9E-03	No	No
	50000	2.0E-04	4.0E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	5.3E-05	1.6E-03	No	No
	50000+	1.0E-04	2.0E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-05	7.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	7500	4.6E-05	7.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	5.8E-03	No	No
	10000	2.3E-05	4.1E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	3.0E-03	No	No
	18000	9.3E-06	1.7E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	1.3E-03	No	No
	30000	4.6E-06	9.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	6.5E-04	No	No
	50000	2.3E-06	4.7E-06	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	3.4E-04	No	No
	50000+	9.3E-07	1.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	1.4E-04	No	No
	50000++	4.6E-07	1.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	7.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	7500	1.0E-02	0.0131	2	216	16	16	160	0.13	1.4E+00	8.0E-02	7.5E-06	No	No
	10000	5.0E-03	0.0131	2	216	16	16	160	0.13	1.4E+00	4.0E-02	3.8E-06	No	No
	18000	2.0E-03	0.0131	2	216	16	16	160	0.13	1.4E+00	1.6E-02	1.5E-06	No	No
	30000	1.0E-03	0.0131	2	216	16	16	160	0.13	1.4E+00	8.0E-03	7.5E-07	No	No
	50000	5.0E-04	0.0131	2	216	16	16	160	0.13	1.4E+00	4.0E-03	3.8E-07	No	No
	50000+	2.0E-04	0.0131	2	216	16	16	160	0.13	1.4E+00	1.6E-03	1.5E-07	No	No
	50000++	1.0E-04	0.0131	2	216	16	16	160	0.13	1.4E+00	8.0E-04	7.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	4.6E-01	No	No
	4000	5.0E-03	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.3E-01	No	No
	4000	2.0E-03	2.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	9.3E-02	No	No
	5000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.6E-02	No	No
	5000	5.0E-04	5.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.3E-02	No	No
	7000	2.0E-04	2.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	9.3E-03	No	No
	9000	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.6E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	4000	4.6E-05	2.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No	No
	5000	2.3E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.0E-02	No	No
	6000	9.3E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.1E-03	No	No
	7500	4.6E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No	No
	9500	2.3E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.0E-03	No	No
	14500	9.3E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.1E-04	No	No
	20000	4.6E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	4000	1.0E-02	3.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-05	No	No
	5000	5.0E-03	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.3E-05	No	No
	6000	2.0E-03	7.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.4E-06	No	No
	7500	1.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-06	No	No
	9500	5.0E-04	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.3E-06	No	No
	14500	2.0E-04	7.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.4E-07	No	No
	20000	1.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Initiation													
3000	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	4.8E-01	No	No
3000	5.0E-03	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.3E-01	No	No
3000	2.0E-03	2.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	9.3E-02	No	No
4500	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.8E-02	No	No
6500	5.0E-04	5.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.3E-02	No	No
9500	2.0E-04	2.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	9.3E-03	No	No
14000	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.6E-05	2.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No	No
4000	2.3E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.0E-02	No	No
5000	9.3E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.1E-03	No	No
8500	4.6E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No	No
12000	2.3E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.0E-03	No	No
24000	9.3E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.1E-04	No	No
40000	4.6E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammich 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-05	No	No
4000	5.0E-03	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.3E-05	No	No
5000	2.0E-03	7.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.4E-06	No	No
8500	1.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-06	No	No
12000	5.0E-04	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.3E-06	No	No
24000	2.0E-04	7.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.4E-07	No	No
40000	1.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow														
Distance (m)	Daily Acute Intake Value (g/m ²)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-08	2.7E-03	4.6E-01	No	No
	3000	5.0E-03	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	2.3E-01	No	No
	4500	2.0E-03	2.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	9.3E-02	No	No
	6000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	4.6E-02	No	No
	9500	5.0E-04	5.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	2.3E-02	No	No
	18500	2.0E-04	2.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	9.3E-03	No	No
	26500	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	4.6E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	4.6E-05	2.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	2.1E-02	No	No
	8500	2.3E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	1.0E-02	No	No
	14500	9.3E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	4.1E-03	No	No
	22000	4.6E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	2.1E-03	No	No
	35500	2.3E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	1.0E-03	No	No
	50000+	9.3E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	4.1E-04	No	No
	50000++	4.6E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Brammichan 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	1.3E-02	3.6E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	2.7E-05	No	No
	8500	5.0E-03	1.3E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	1.3E-05	No	No
	14500	2.0E-03	1.3E-02	7.3E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	5.4E-06	No	No
	22000	1.0E-03	1.3E-02	3.6E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	2.7E-06	No	No
	35500	5.0E-04	1.3E-02	1.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	1.3E-06	No	No
	50000+	2.0E-04	1.3E-02	7.3E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	5.4E-07	No	No
	50000++	1.0E-04	1.3E-02	3.6E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	2.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		
Inhalation													
3000	1.0E-02	1.2E-06			60	0.1	16	3.75	6.3E-04	2.6E-06	2.7E-03	4.6E-01	No
4000	5.0E-03	5.9E-07			60	0.1	16	3.75	6.3E-04	2.6E-06	1.3E-03	2.3E-01	No
7000	2.0E-03	2.4E-07			60	0.1	16	3.75	6.3E-04	2.6E-06	5.3E-04	9.3E-02	No
10000	1.0E-03	1.2E-07			60	0.1	16	3.75	6.3E-04	2.6E-06	2.7E-04	4.6E-02	No
16000	5.0E-04	5.9E-08			60	0.1	16	3.75	6.3E-04	2.6E-06	1.3E-04	2.3E-02	No
30000	2.0E-04	2.4E-08			60	0.1	16	3.75	6.3E-04	2.6E-06	5.3E-05	9.3E-03	No
50000	1.0E-04	1.2E-08			60	0.1	16	3.75	6.3E-04	2.6E-06	2.7E-05	4.6E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shirm et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
Ingestion													
7500	4.8E-05	2.8E-04	17.6	22	16	1.10	1.4E-02	4.2E-05	1.4E-02	2.1E-02	2.1E-02	No	
10000	2.3E-05	1.4E-04	17.6	22	16	1.10	1.4E-02	2.1E-05	1.4E-02	1.0E-02	1.0E-02	No	
18000	9.3E-06	5.7E-05	17.6	22	16	1.10	1.4E-02	8.4E-06	1.4E-02	4.1E-03	4.1E-03	No	
30000	4.8E-06	2.8E-05	17.6	22	16	1.10	1.4E-02	4.2E-06	1.4E-02	2.1E-03	2.1E-03	No	
50000	2.3E-06	1.4E-05	17.6	22	16	1.10	1.4E-02	2.1E-06	1.4E-02	1.0E-03	1.0E-03	No	
50000+	9.3E-07	5.7E-06	17.6	22	16	1.10	1.4E-02	8.4E-07	1.4E-02	4.1E-04	4.1E-04	No	
50000++	4.8E-07	2.8E-06	17.6	22	16	1.10	1.4E-02	4.2E-07	1.4E-02	2.1E-04	2.1E-04	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
Dermal Absorption													
7500	1.0E-02	0.0131	3.6E-05	2	216	16	0.13	1.4E+00	6.0E-02	1.4E+00	2.7E-05	No	
10000	5.0E-03	0.0131	1.8E-05	2	216	16	0.13	1.4E+00	4.0E-02	1.4E+00	1.3E-05	No	
18000	2.0E-03	0.0131	7.3E-06	2	216	16	0.13	1.4E+00	1.6E-02	1.4E+00	5.4E-06	No	
30000	1.0E-03	0.0131	3.6E-06	2	216	16	0.13	1.4E+00	8.0E-03	1.4E+00	2.7E-06	No	
50000	5.0E-04	0.0131	1.8E-06	2	216	16	0.13	1.4E+00	4.0E-03	1.4E+00	1.3E-06	No	
50000+	2.0E-04	0.0131	7.3E-07	2	216	16	0.13	1.4E+00	1.6E-03	1.4E+00	5.4E-07	No	
50000++	1.0E-04	0.0131	3.6E-07	2	216	16	0.13	1.4E+00	8.0E-04	1.4E+00	2.7E-07	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	5.0E-03	3.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
6000	2.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
7500	1.0E-03	5.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9500	5.0E-04	3.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
14500	2.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
20000	1.0E-04	5.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1967									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Ingestion									
4000	4.6E-05	1.4E-04	176	22	16	1600	1.10	1.4E-02	4.2E-05
5000	2.3E-05	7.1E-05	176	22	16	1600	1.10	1.4E-02	2.1E-05
6000	9.3E-06	2.8E-05	176	22	16	1600	1.10	1.4E-02	8.4E-06
7500	4.6E-06	1.4E-05	176	22	16	1600	1.10	1.4E-02	4.2E-06
9500	2.3E-06	7.1E-06	176	22	16	1600	1.10	1.4E-02	2.1E-06
14500	9.3E-07	2.8E-06	176	22	16	1600	1.10	1.4E-02	8.4E-07
20000	4.6E-07	1.4E-06	176	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Dermal Absorption									
4000	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	9.1E-06	2	216	16	160	0.13	1.4E+00	4.0E-02
6000	2.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
7500	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
9500	5.0E-04	9.1E-07	2	216	16	160	0.13	1.4E+00	4.0E-03
14500	2.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
20000	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1950									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Racer risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.3E-01	No	No
	3000	5.0E-03	3.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.2E-01	No	No
	3000	2.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	4.6E-02	No	No
	4500	1.0E-03	5.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.3E-02	No	No
	6500	5.0E-04	3.0E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.2E-02	No	No
	9500	2.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	4.6E-03	No	No
14000	1.0E-04	5.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.3E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1967														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	3000	4.6E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.0E-02	No	No
	4000	2.3E-05	7.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	5.1E-03	No	No
	5000	9.3E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.1E-03	No	No
	6500	4.6E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.0E-03	No	No
	12000	2.3E-06	7.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	5.1E-04	No	No
	24000	9.3E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.1E-04	No	No
40000	4.6E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.0E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1956														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	3000	1.0E-02	1.3E-02	1.8E-05	2	216	16	0.13	1.4E+00	1.4E+00	6.0E-02	1.3E-05	No	No
	4000	5.0E-03	1.3E-02	9.1E-06	2	216	16	0.13	1.4E+00	1.4E+00	4.0E-02	6.7E-06	No	No
	5000	2.0E-03	1.3E-02	3.6E-06	2	216	16	0.13	1.4E+00	1.4E+00	1.6E-02	2.7E-06	No	No
	6500	1.0E-03	1.3E-02	1.8E-06	2	216	16	0.13	1.4E+00	1.4E+00	8.0E-03	1.3E-06	No	No
	12000	5.0E-04	1.3E-02	9.1E-07	2	216	16	0.13	1.4E+00	1.4E+00	4.0E-03	6.7E-07	No	No
	24000	2.0E-04	1.3E-02	3.6E-07	2	216	16	0.13	1.4E+00	1.4E+00	1.6E-03	2.7E-07	No	No
40000	1.0E-04	1.3E-02	1.8E-07	2	216	16	0.13	1.4E+00	1.4E+00	8.0E-04	1.3E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	5.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
3000	5.0E-03	3.0E-07	60	0.1	16	180	3.75	6.3E-04	2.6E-06
4500	2.0E-03	1.2E-07	60	0.1	16	180	3.75	6.3E-04	2.6E-06
6000	1.0E-03	5.9E-08	60	0.1	16	180	3.75	6.3E-04	2.6E-06
9500	5.0E-04	3.0E-08	60	0.1	16	180	3.75	6.3E-04	2.6E-06
16500	2.0E-04	1.2E-08	60	0.1	16	180	3.75	6.3E-04	2.6E-06
26500	1.0E-04	5.9E-09	60	0.1	16	180	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
8500	4.8E-05	1.4E-04	176	22	16	1600	1.10	1.4E-02	4.2E-05
8500	2.3E-05	7.1E-05	176	22	16	1600	1.10	1.4E-02	2.1E-05
14500	9.3E-06	2.8E-05	176	22	16	1600	1.10	1.4E-02	8.4E-06
22000	4.8E-06	1.4E-05	176	22	16	1600	1.10	1.4E-02	4.2E-06
35500	2.3E-06	7.1E-06	176	22	16	1600	1.10	1.4E-02	2.1E-06
50000+	9.3E-07	2.8E-06	176	22	16	1600	1.10	1.4E-02	8.4E-07
50000++	4.8E-07	1.4E-06	176	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
6500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E-00	8.0E-02
8500	5.0E-03	6.5E-03	2	216	16	160	0.13	1.4E-00	4.0E-02
14500	2.0E-03	3.3E-03	2	216	16	160	0.13	1.4E-00	1.6E-02
22000	1.0E-03	1.6E-03	2	216	16	160	0.13	1.4E-00	8.0E-03
35500	5.0E-04	8.0E-04	2	216	16	160	0.13	1.4E-00	4.0E-03
50000+	2.0E-04	3.3E-04	2	216	16	160	0.13	1.4E-00	1.6E-03
50000++	1.0E-04	1.6E-04	2	216	16	160	0.13	1.4E-00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	5.9E-07	60	0.1	16	16	160	3.75	2.6E-06
4000	5.0E-03	3.0E-07	60	0.1	16	16	160	3.75	1.3E-06
7000	2.0E-03	1.2E-07	60	0.1	16	16	160	3.75	5.3E-06
10000	1.0E-03	5.9E-08	60	0.1	16	16	160	3.75	2.6E-06
18000	5.0E-04	3.0E-08	60	0.1	16	16	160	3.75	1.3E-06
30000	2.0E-04	1.2E-08	60	0.1	16	16	160	3.75	5.3E-06
50000	1.0E-04	5.9E-09	60	0.1	16	16	160	3.75	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Ingestion									
7500	4.6E-05	1.4E-04	17.6	22	16	16	1600	1.10	1.4E-02
10000	2.3E-05	7.1E-05	17.6	22	16	16	1600	1.10	1.4E-02
18000	9.3E-06	2.8E-05	17.6	22	16	16	1600	1.10	1.4E-02
30000	4.6E-06	1.4E-05	17.6	22	16	16	1600	1.10	1.4E-02
50000	2.3E-06	7.1E-06	17.6	22	16	16	1600	1.10	1.4E-02
50000+	9.3E-07	2.8E-06	17.6	22	16	16	1600	1.10	1.4E-02
50000++	4.6E-07	1.4E-06	17.6	22	16	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramm et al. 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Dermal Absorption									
7500	1.0E-02	0.0131	2	216	16	16	160	0.13	1.4E-00
10000	5.0E-03	0.0131	2	216	16	16	160	0.13	1.4E-00
18000	2.0E-03	0.0131	2	216	16	16	160	0.13	1.4E-00
30000	1.0E-03	0.0131	2	216	16	16	160	0.13	1.4E-00
50000	5.0E-04	0.0131	2	216	16	16	160	0.13	1.4E-00
50000+	2.0E-04	0.0131	2	216	16	16	160	0.13	1.4E-00
50000++	1.0E-04	0.0131	2	216	16	16	160	0.13	1.4E-00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	7.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.9E-01	No	No
4000	5.0E-03	3.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.4E-01	No	No
4000	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	5.8E-02	No	No
5000	1.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.9E-02	No	No
5000	5.0E-04	3.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.4E-02	No	No
7000	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	5.8E-03	No	No
9000	1.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shin et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	4.8E-05	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.3E-02	No	No
5000	2.3E-05	8.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	6.4E-03	No	No
6000	9.3E-06	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.6E-03	No	No
7500	4.8E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.3E-03	No	No
9500	2.3E-06	8.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	6.4E-04	No	No
14500	9.3E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.6E-04	No	No
20000	4.8E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	2.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.7E-05	No	No
5000	5.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.4E-06	No	No
6000	2.0E-03	4.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.4E-06	No	No
7500	1.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.7E-06	No	No
9500	5.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.4E-07	No	No
14500	2.0E-04	4.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.4E-07	No	No
20000	1.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	7.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
3000	5.0E-03	3.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
3000	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4500	1.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
6500	5.0E-04	3.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9500	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
14000	1.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
3000	4.6E-05	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
4000	2.3E-05	8.8E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
5000	9.3E-06	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
8500	4.6E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
12000	2.3E-06	8.8E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
24000	9.3E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
40000	4.6E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachar 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
3000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
4000	5.0E-03	1.1E-02	2	216	16	160	0.13	1.4E+00	4.0E-02
5000	2.0E-03	4.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
8500	1.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
12000	5.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
24000	2.0E-04	4.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
40000	1.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	7.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.9E-01	No	No
3000	5.0E-03	3.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.4E-01	No	No
4500	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	5.8E-02	No	No
6000	1.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.9E-02	No	No
9500	5.0E-04	3.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.4E-02	No	No
16500	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	5.8E-03	No	No
26500	1.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	4.6E-05	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.3E-02	No	No
8500	2.3E-05	8.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	6.4E-03	No	No
14500	9.3E-06	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.6E-03	No	No
22000	4.6E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.3E-03	No	No
35500	2.3E-06	8.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	6.4E-04	No	No
50000+	9.3E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.6E-04	No	No
50000++	4.6E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.7E-05	No	No
8500	5.0E-03	1.1E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.4E-06	No	No
14500	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.4E-06	No	No
22000	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.7E-06	No	No
35500	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.4E-07	No	No
50000+	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.4E-07	No	No
50000++	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddie Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	7.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.9E-01	No
	4000	5.0E-03	3.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.4E-01	No
	7000	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	5.8E-02	No
	10000	1.0E-03	7.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.9E-02	No
	16000	5.0E-04	3.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.4E-02	No
	30000	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	5.8E-03	No
	50000	1.0E-04	7.4E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.9E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	4.6E-05	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.3E-02	No
	10000	2.3E-05	8.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	6.4E-03	No
	18000	9.3E-06	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.6E-03	No
	30000	4.6E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.3E-03	No
	50000	2.3E-06	8.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	6.4E-04	No
	50000+	9.3E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.6E-04	No
	50000++	4.6E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.3E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramm et al. 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.7E-05	No
	10000	5.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	8.4E-06	No
	18000	2.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.4E-06	No
	30000	1.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.7E-06	No
	50000	5.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	8.4E-07	No
	50000+	2.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.4E-07	No
	50000++	1.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.7E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, OPTM

Mobile Smoke - Bailey McCann Hollow and Babb Airfield									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	8.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	5.0E-03	4.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	2.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	1.0E-03	8.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	5.0E-04	4.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
7000	2.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9000	1.0E-04	8.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	4.6E-05	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
5000	2.3E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
6000	9.3E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
7500	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
9500	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
14500	9.3E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
20000	4.6E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.7E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	1.4E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
6000	2.0E-03	5.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
7500	1.0E-03	2.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
9500	5.0E-04	1.4E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
14500	2.0E-04	5.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
20000	1.0E-04	2.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.7E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	1.4E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
6000	2.0E-03	5.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
7500	1.0E-03	2.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
9500	5.0E-04	1.4E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
14500	2.0E-04	5.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
20000	1.0E-04	2.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	8.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	3.5E-01	No	No
3000	5.0E-03	4.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.7E-01	No	No
3000	2.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	6.9E-02	No	No
4500	1.0E-03	8.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	3.5E-02	No	No
6500	5.0E-04	4.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.7E-02	No	No
9500	2.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	6.9E-03	No	No
14000	1.0E-04	8.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	3.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.6E-05	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.5E-02	No	No
4000	2.3E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	7.7E-03	No	No
5000	9.3E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	3.1E-03	No	No
8500	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.5E-03	No	No
12000	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	7.7E-04	No	No
24000	9.3E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	3.1E-04	No	No
40000	4.6E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1969													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.0E-05	No	No
4000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-05	No	No
5000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.0E-06	No	No
8500	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.0E-06	No	No
12000	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-06	No	No
24000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.0E-07	No	No
40000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1969													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield												
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation												
2500	1.0E-02	8.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	3.5E-01	No
3000	5.0E-03	4.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.7E-01	No
4500	2.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	6.9E-02	No
6000	1.0E-03	8.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	3.5E-02	No
9500	5.0E-04	4.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.7E-02	No
18500	2.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	6.9E-03	No
26500	1.0E-04	8.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	3.5E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987												
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992												
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion												
6500	4.8E-05	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.5E-02	No
8500	2.3E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	7.7E-03	No
14500	9.3E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	3.1E-03	No
22000	4.8E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.5E-03	No
35500	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	7.7E-04	No
50000+	9.3E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	3.1E-04	No
50000++	4.8E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.5E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramech 1958												
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989												
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption												
6500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.0E-05	No
8500	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-05	No
14500	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.0E-06	No
22000	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.0E-06	No
35500	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-06	No
50000+	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.0E-07	No
50000++	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.0E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990												
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989												

Racer risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	8.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	3.5E-01	No	No
4000	5.0E-03	4.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.7E-01	No	No
7000	2.0E-03	1.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	6.9E-02	No	No
10000	1.0E-03	8.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	3.5E-02	No	No
16000	5.0E-04	4.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.7E-02	No	No
30000	2.0E-04	1.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	6.9E-03	No	No
50000	1.0E-04	8.9E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	3.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	4.6E-05	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.5E-02	No	No
10000	2.3E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	7.7E-03	No	No
18000	9.3E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	3.1E-03	No	No
30000	4.6E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.5E-03	No	No
50000	2.3E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	7.7E-04	No	No
50000++	9.3E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	3.1E-04	No	No
50000++	4.6E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	2.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.0E-05	No	No
10000	5.0E-03	1.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-05	No	No
18000	2.0E-03	5.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.0E-06	No	No
30000	1.0E-03	2.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.0E-06	No	No
50000	5.0E-04	1.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-06	No	No
50000+	2.0E-04	5.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.0E-07	No	No
50000++	1.0E-04	2.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Environmentally Preferred Training Method

Racer risk, EPTM

Static Smoke														
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Inhalation	4000	1.0E-02	2.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.0E-02	No	
	4000	5.0E-03	1.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	5.0E-03	No	
	5000	2.0E-03	5.1E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	2.0E-03	No	
	5000	1.0E-03	2.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.0E-03	No	
	6000	5.0E-04	1.3E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	5.0E-04	No	
	8000	2.0E-04	5.1E-10	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	2.0E-04	No	
	12000	1.0E-04	2.6E-10	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.0E-04	No	
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	4000	4.6E-05	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	7.4E-04	No	No	
	5000	2.3E-05	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	3.9E-04	No	No	
	6000	9.3E-06	2.2E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	1.6E-04	No	No	
	7000	4.6E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-06	8.5E-05	No	No	
	9500	2.3E-06	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	4.4E-05	No	No	
	14000	9.3E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	1.8E-05	No	No	
	20000	4.6E-07	1.3E-07	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	9.5E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	9.7E-07	No	No
	5000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-07	No	No
	6000	2.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.9E-07	No	No
	7000	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	9.7E-08	No	No
	9500	5.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-08	No	No
	14000	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.9E-08	No	No
	20000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	9.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, EPTM

Static Smoke								**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect			
Distance (m)		Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		*Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)													
Inhalation		3500	1.0E-02	2.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	2.7E-03	1.0E-02	No	No													
	3500	5.0E-03	1.3E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	1.3E-03	5.0E-03	No	No														
	4000	2.0E-03	5.1E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	5.3E-04	2.0E-03	No	No														
	5500	1.0E-03	2.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	2.7E-04	1.0E-03	No	No														
	7500	5.0E-04	1.3E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	1.3E-04	5.0E-04	No	No														
	12000	2.0E-04	5.1E-10	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	5.3E-05	2.0E-04	No	No														
	18500	1.0E-04	2.6E-10	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.6E-06	2.7E-05	1.0E-04	No	No														
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																													
Distance (m)		Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)						Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Ingestion		3500	4.6E-05	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	7.4E-04	No	No														
	4000	2.3E-05	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.9E-04	No	No															
	5500	9.3E-06	2.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.6E-04	No	No															
	8000	4.6E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	8.5E-05	No	No															
	12000	2.3E-06	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	4.4E-05	No	No															
	24000	9.3E-07	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.8E-05	No	No															
	40000	4.6E-07	1.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	9.5E-06	No	No															
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramschari 1958																													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																													
Distance (m)		Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)						Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Dermal Absorption		3500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	9.7E-07	No	No														
	4000	5.0E-03	1.3E-02	6.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-07	No	No														
	5500	2.0E-03	1.3E-02	2.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.9E-07	No	No														
	8000	1.0E-03	1.3E-02	1.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	9.7E-08	No	No														
	12000	5.0E-04	1.3E-02	6.6E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-08	No	No														
	24000	2.0E-04	1.3E-02	2.6E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.9E-08	No	No														
	40000	1.0E-04	1.3E-02	1.3E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	9.7E-09	No	No														
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																													

Racer risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	2.6E-06	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-03	1.0E-02	No	No
	4500	5.0E-03	1.3E-06	60	0.1	16	16	160	6.3E-04	2.6E-06	1.3E-03	5.0E-03	No	No
	6500	2.0E-03	5.1E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	5.3E-04	2.0E-03	No	No
	8500	1.0E-03	2.6E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-04	1.0E-03	No	No
	12500	5.0E-04	1.3E-09	60	0.1	16	16	160	6.3E-04	2.6E-06	1.3E-04	5.0E-04	No	No
	22500	2.0E-04	5.1E-10	60	0.1	16	16	160	6.3E-04	2.6E-06	5.3E-05	2.0E-04	No	No
	35500	1.0E-04	2.6E-10	60	0.1	16	16	160	6.3E-04	2.6E-06	2.7E-05	1.0E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	6500	4.6E-05	1.0E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	7.4E-04	No	No
	8500	2.3E-05	5.4E-06	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	3.9E-04	No	No
	14000	9.3E-06	2.2E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	1.6E-04	No	No
	22000	4.6E-06	1.2E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	8.5E-05	No	No
	35500	2.3E-06	6.1E-07	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	4.4E-05	No	No
	50000+	9.3E-07	2.5E-07	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	1.8E-05	No	No
	50000++	4.6E-07	1.3E-07	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	9.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Brammichani 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	6500	1.0E-02	1.3E-02	2	216	16	16	160	0.13	1.4E+00	8.0E-02	9.7E-07	No	No
	8500	5.0E-03	6.6E-07	2	216	16	16	160	0.13	1.4E+00	4.0E-02	4.9E-07	No	No
	14000	2.0E-03	2.6E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-02	1.9E-07	No	No
	22000	1.0E-03	1.3E-02	2	216	16	16	160	0.13	1.4E+00	8.0E-03	9.7E-08	No	No
	35500	5.0E-04	6.6E-08	2	216	16	16	160	0.13	1.4E+00	4.0E-03	4.9E-08	No	No
	50000+	2.0E-04	2.6E-08	2	216	16	16	160	0.13	1.4E+00	1.6E-03	1.9E-08	No	No
	50000++	1.0E-04	1.3E-02	2	216	16	16	160	0.13	1.4E+00	8.0E-04	9.7E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	2.6E-08	60	0.1	16	16	3.75	6.3E-04	2.6E-06	2.7E-03	1.0E-02	No	No
	5000	5.0E-03	1.3E-08	60	0.1	16	16	3.75	6.3E-04	2.6E-06	1.3E-03	5.0E-03	No	No
	9000	2.0E-03	5.1E-09	60	0.1	16	16	3.75	6.3E-04	2.6E-06	5.3E-04	2.0E-03	No	No
	14000	1.0E-03	2.6E-09	60	0.1	16	16	3.75	6.3E-04	2.6E-06	2.7E-04	1.0E-03	No	No
	24000	5.0E-04	1.3E-09	60	0.1	16	16	3.75	6.3E-04	2.6E-06	1.3E-04	5.0E-04	No	No
	50000	2.0E-04	5.1E-10	60	0.1	16	16	3.75	6.3E-04	2.6E-06	5.3E-05	2.0E-04	No	No
	50000+	1.0E-04	2.6E-10	60	0.1	16	16	3.75	6.3E-04	2.6E-06	2.7E-05	1.0E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	7500	4.6E-05	1.0E-05	17.6	22	16	16	1.10	1.4E-02	1.4E-02	4.2E-05	7.4E-04	No	No
	10000	2.3E-05	5.4E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	2.1E-05	3.9E-04	No	No
	18000	9.3E-06	2.2E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	8.4E-06	1.6E-04	No	No
	30000	4.6E-06	1.2E-06	17.6	22	16	16	1.10	1.4E-02	1.4E-02	4.2E-06	8.5E-05	No	No
	50000	2.3E-06	6.1E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	2.1E-06	4.4E-05	No	No
	50000+	9.3E-07	2.9E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	8.4E-07	1.8E-05	No	No
	50000++	4.6E-07	1.3E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-02	4.2E-07	9.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1956														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	7500	1.0E-02	1.3E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-02	9.7E-07	No	No
	10000	5.0E-03	6.6E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-07	No	No
	18000	2.0E-03	2.6E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-02	1.9E-07	No	No
	30000	1.0E-03	1.3E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-03	9.7E-08	No	No
	50000	5.0E-04	6.6E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-08	No	No
	50000+	2.0E-04	2.6E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-03	1.9E-08	No	No
	50000++	1.0E-04	1.3E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-04	9.7E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	7.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	5.0E-03	3.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	1.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	5.0E-04	3.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
7000	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9000	1.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	4.8E-05	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
5000	2.3E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
6000	9.3E-06	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
7500	4.8E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
9500	2.3E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
14500	9.3E-07	3.6E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
20000	4.8E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.3E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
6000	2.0E-03	4.7E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
7500	1.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
9500	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
14500	2.0E-04	4.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
20000	1.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	7.6E-07	60	0.1	16	16	160	3.75	2.6E-06	2.7E-03	3.0E-01	No
	3000	5.0E-03	3.8E-07	60	0.1	16	16	160	3.75	2.6E-06	1.3E-03	1.5E-01	No
	3000	2.0E-03	1.5E-07	60	0.1	16	16	160	3.75	2.6E-06	5.3E-04	6.0E-02	No
	4500	1.0E-03	7.6E-08	60	0.1	16	16	160	3.75	2.6E-06	2.7E-04	3.0E-02	No
	6500	5.0E-04	3.8E-08	60	0.1	16	16	160	3.75	2.6E-06	1.3E-04	1.5E-02	No
	9500	2.0E-04	1.5E-08	60	0.1	16	16	160	3.75	2.6E-06	5.3E-05	6.0E-03	No
	14000	1.0E-04	7.6E-09	60	0.1	16	16	160	3.75	2.6E-06	2.7E-05	3.0E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	4.6E-05	1.9E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	1.3E-02	No
	4000	2.3E-05	9.1E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	6.6E-03	No
	5000	9.3E-06	3.6E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	2.7E-03	No
	8500	4.6E-06	1.8E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	1.3E-03	No
	12000	2.3E-06	9.1E-06	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	6.6E-04	No
	24000	9.3E-07	3.6E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	2.7E-04	No
	40000	4.6E-07	1.8E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	1.3E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bremachan 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.3E-05	2	216	16	16	160	0.13	1.4E+00	6.0E-02	1.7E-05	No
	4000	5.0E-03	1.2E-05	2	216	16	16	160	0.13	1.4E+00	4.0E-02	8.7E-06	No
	5000	2.0E-03	4.7E-06	2	216	16	16	160	0.13	1.4E+00	1.6E-02	3.5E-06	No
	8500	1.0E-03	2.3E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-03	1.7E-06	No
	12000	5.0E-04	1.2E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-03	8.7E-07	No
	24000	2.0E-04	4.7E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-03	3.5E-07	No
	40000	1.0E-04	2.3E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-04	1.7E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Musgrave Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	7.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06
3000	5.0E-03	3.8E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-03
4500	2.0E-03	1.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
6000	1.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9500	5.0E-04	3.8E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-04
16500	2.0E-04	1.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
26500	1.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.7E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
6500	4.8E-05	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
8500	2.3E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
14500	9.3E-06	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
22000	4.8E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
35500	2.3E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
50000+	9.3E-07	3.6E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
50000++	4.8E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Brammner 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
6500	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
8500	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	4.0E-02
14500	2.0E-03	4.7E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
22000	1.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
35500	5.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
50000+	2.0E-04	4.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
50000++	1.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	7.6E-07	60	0.1	16		160	3.75	6.3E-04	2.7E-03	3.0E-01	No	No
4000	5.0E-03	3.8E-07	60	0.1	16		160	3.75	6.3E-04	1.3E-03	1.5E-01	No	No
7000	2.0E-03	1.5E-07	60	0.1	16		160	3.75	6.3E-04	5.3E-04	6.0E-02	No	No
10000	1.0E-03	7.6E-08	60	0.1	16		160	3.75	6.3E-04	2.6E-06	3.0E-02	No	No
16000	5.0E-04	3.8E-08	60	0.1	16		160	3.75	6.3E-04	1.3E-04	1.5E-02	No	No
30000	2.0E-04	1.5E-08	60	0.1	16		160	3.75	6.3E-04	5.3E-05	6.0E-03	No	No
50000	1.0E-04	7.6E-09	60	0.1	16		160	3.75	6.3E-04	2.7E-05	3.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	4.6E-05	1.8E-04	17.6	22	16		1600	1.10	1.4E-02	4.2E-05	1.3E-02	No	No
10000	2.3E-05	9.1E-05	17.6	22	16		1600	1.10	1.4E-02	2.1E-05	6.6E-03	No	No
18000	9.3E-06	3.6E-05	17.6	22	16		1600	1.10	1.4E-02	8.4E-06	2.7E-03	No	No
30000	4.6E-06	1.8E-05	17.6	22	16		1600	1.10	1.4E-02	4.2E-08	1.3E-03	No	No
50000	2.3E-06	9.1E-06	17.6	22	16		1600	1.10	1.4E-02	2.1E-06	6.6E-04	No	No
50000+	9.3E-07	3.6E-06	17.6	22	16		1600	1.10	1.4E-02	8.4E-07	2.7E-04	No	No
50000++	4.6E-07	1.8E-06	17.6	22	16		1600	1.10	1.4E-02	4.2E-07	1.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	0.0131	2.3E-05	2	16		160	0.13	1.4E+00	6.0E-02	1.7E-05	No	No
10000	5.0E-03	0.0131	1.2E-05	2	16		160	0.13	1.4E+00	4.0E-02	8.7E-06	No	No
18000	2.0E-03	0.0131	4.7E-06	2	16		160	0.13	1.4E+00	1.6E-02	3.6E-06	No	No
30000	1.0E-03	0.0131	2.3E-06	2	16		160	0.13	1.4E+00	8.0E-03	1.7E-06	No	No
50000	5.0E-04	0.0131	1.2E-06	2	16		160	0.13	1.4E+00	4.0E-03	8.7E-07	No	No
50000+	2.0E-04	0.0131	4.7E-07	2	16		160	0.13	1.4E+00	1.6E-03	3.6E-07	No	No
50000++	1.0E-04	0.0131	2.3E-07	2	16		160	0.13	1.4E+00	8.0E-04	1.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	3.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	5.0E-03	1.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06
4000	2.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	1.0E-03	3.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
5000	5.0E-04	1.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06
7000	2.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
9000	1.0E-04	3.8E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
4000	4.6E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
5000	2.3E-05	4.6E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
6000	9.3E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
7500	4.6E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
9500	2.3E-06	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
14500	9.3E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
20000	4.6E-07	9.1E-07	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
4000	1.0E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	5.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-02
6000	2.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
7500	1.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
9500	5.0E-04	5.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-03
14500	2.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
20000	1.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.5E-01	No	No
4000	5.0E-03	1.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	7.5E-02	No	No
5000	2.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.0E-02	No	No
6500	1.0E-03	3.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.5E-02	No	No
9500	5.0E-04	1.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	7.5E-03	No	No
14000	2.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.0E-03	No	No
	1.0E-04	3.8E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.6E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	6.6E-03	No	No
4000	2.3E-05	4.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.3E-03	No	No
5000	9.3E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.3E-03	No	No
8500	4.6E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	6.6E-04	No	No
12000	2.3E-06	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.3E-04	No	No
24000	9.3E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.3E-04	No	No
40000	4.6E-07	9.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	6.6E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.7E-06	No	No
4000	5.0E-03	5.9E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-06	No	No
5000	2.0E-03	2.3E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-06	No	No
8500	1.0E-03	1.2E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.7E-07	No	No
12000	5.0E-04	5.9E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-07	No	No
24000	2.0E-04	2.3E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-07	No	No
40000	1.0E-04	1.2E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	3.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.5E-01	No	No
3000	5.0E-03	1.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	7.5E-02	No	No
4500	2.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.0E-02	No	No
6000	1.0E-03	3.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.5E-02	No	No
9500	5.0E-04	1.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	7.5E-03	No	No
16500	2.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.0E-03	No	No
26500	1.0E-04	3.8E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	4.6E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	6.6E-03	No	No
8500	2.3E-05	4.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.3E-03	No	No
14500	9.3E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.3E-03	No	No
22000	4.6E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	6.6E-04	No	No
35500	2.3E-06	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.3E-04	No	No
50000+	9.3E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.3E-04	No	No
50000++	4.6E-07	9.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	6.6E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
8500	1.0E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	6.7E-06	No	No
8500	5.0E-03	5.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-06	No	No
14500	2.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-06	No	No
22000	1.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.7E-07	No	No
35500	5.0E-04	5.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-07	No	No
50000+	2.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-07	No	No
50000++	1.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Chronic Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)													
	3000	1.0E-02	3.9E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-03	1.5E-01	No	No
	4000	5.0E-03	1.9E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-06	1.3E-03	7.5E-02	No	No
	7000	2.0E-03	7.6E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	5.3E-04	3.0E-02	No	No
	10000	1.0E-03	3.9E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-04	1.5E-02	No	No
	16000	5.0E-04	1.9E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-06	1.3E-04	7.5E-03	No	No
	30000	2.0E-04	7.6E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-06	5.3E-05	3.0E-03	No	No
	50000	1.0E-04	3.9E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-06	2.7E-05	1.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)													
	7500	4.6E-05	9.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	6.8E-03	No	No
	10000	2.3E-05	4.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.3E-03	No	No
	18000	9.3E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.3E-03	No	No
	30000	4.6E-06	9.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	6.8E-04	No	No
	50000	2.3E-06	4.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.3E-04	No	No
	50000+	9.3E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.3E-04	No	No
	50000++	4.6E-07	9.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	6.8E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)													
	7500	1.0E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.7E-06	No	No
	10000	5.0E-03	5.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-06	No	No
	18000	2.0E-03	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-06	No	No
	30000	1.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.7E-07	No	No
	50000	5.0E-04	5.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-07	No	No
	50000+	2.0E-04	2.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-07	No	No
	50000++	1.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	4.8E-07	60	0.1	16	16	160	3.75	2.6E-06	2.7E-03	1.9E-01	No	No
4000	5.0E-03	2.4E-07	60	0.1	16	16	160	3.75	2.6E-06	1.3E-03	9.3E-02	No	No
4000	2.0E-03	9.8E-08	60	0.1	16	16	160	3.75	2.6E-06	5.3E-04	3.7E-02	No	No
5000	1.0E-03	4.8E-08	60	0.1	16	16	160	3.75	2.6E-06	2.7E-04	1.9E-02	No	No
5000	5.0E-04	2.4E-08	60	0.1	16	16	160	3.75	2.6E-06	1.3E-04	9.3E-03	No	No
7000	2.0E-04	9.8E-09	60	0.1	16	16	160	3.75	2.6E-06	5.3E-05	3.7E-03	No	No
9000	1.0E-04	4.8E-09	60	0.1	16	16	160	3.75	2.6E-06	2.7E-05	1.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	4.6E-05	1.1E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	6.3E-03	No	No
5000	2.3E-05	5.7E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	4.1E-03	No	No
6000	9.3E-06	2.3E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	1.7E-03	No	No
7500	4.6E-06	1.1E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	8.3E-04	No	No
9500	2.3E-06	5.7E-06	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	4.1E-04	No	No
14500	9.3E-07	2.3E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	1.7E-04	No	No
20000	4.6E-07	1.1E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	8.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	1.3E-02	2	216	16	16	160	0.13	1.4E+00	8.0E-02	1.1E-05	No	No
5000	5.0E-03	7.3E-03	2	216	16	16	160	0.13	1.4E+00	4.0E-02	5.4E-06	No	No
6000	2.0E-03	2.9E-03	2	216	16	16	160	0.13	1.4E+00	1.6E-02	2.2E-06	No	No
7500	1.0E-03	1.5E-03	2	216	16	16	160	0.13	1.4E+00	8.0E-03	1.1E-06	No	No
9500	5.0E-04	7.3E-04	2	216	16	16	160	0.13	1.4E+00	4.0E-03	5.4E-07	No	No
14500	2.0E-04	2.9E-04	2	216	16	16	160	0.13	1.4E+00	1.6E-03	2.2E-07	No	No
20000	1.0E-04	1.5E-04	2	216	16	16	160	0.13	1.4E+00	8.0E-04	1.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	4.8E-07	60	0.1	16	16	160	3.75	2.8E-06	2.7E-03	1.9E-01	No
	3000	5.0E-03	2.4E-07	60	0.1	16	16	160	3.75	2.8E-06	1.3E-03	9.3E-02	No
	3000	2.0E-03	9.6E-08	60	0.1	16	16	160	3.75	2.8E-06	5.3E-04	3.7E-02	No
	4500	1.0E-03	4.8E-08	60	0.1	16	16	160	3.75	2.8E-06	2.7E-04	1.9E-02	No
	6500	5.0E-04	2.4E-08	60	0.1	16	16	160	3.75	2.8E-06	1.3E-04	9.3E-03	No
	9500	2.0E-04	9.6E-09	60	0.1	16	16	160	3.75	2.8E-06	5.3E-05	3.7E-03	No
	14000	1.0E-04	4.8E-09	60	0.1	16	16	160	3.75	2.8E-06	2.7E-05	1.9E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	4.6E-05	1.1E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	8.3E-03	No
	4000	2.3E-05	5.7E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	4.1E-03	No
	5000	9.3E-06	2.3E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	1.7E-03	No
	8500	4.6E-06	1.1E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	8.3E-04	No
	12000	2.3E-06	5.7E-06	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	4.1E-04	No
	24000	9.3E-07	2.3E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	1.7E-04	No
	40000	4.6E-07	1.1E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	8.3E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	1.3E-02	1.5E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	1.1E-05	No
	4000	5.0E-03	1.3E-02	7.3E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	5.4E-06	No
	5000	2.0E-03	1.3E-02	2.9E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	2.2E-06	No
	8500	1.0E-03	1.3E-02	1.5E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	1.1E-06	No
	12000	5.0E-04	1.3E-02	7.3E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	5.4E-07	No
	24000	2.0E-04	1.3E-02	2.9E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	2.2E-07	No
	40000	1.0E-04	1.3E-02	1.5E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.1E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	4.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	1.9E-01	No	No
3000	5.0E-03	2.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	9.3E-02	No	No
4500	2.0E-03	9.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	3.7E-02	No	No
6000	1.0E-03	4.8E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	1.9E-02	No	No
9500	5.0E-04	2.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	9.3E-03	No	No
16500	2.0E-04	9.6E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	3.7E-03	No	No
26500	1.0E-04	4.8E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	1.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	4.8E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	8.3E-03	No	No
8500	2.3E-05	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	4.1E-03	No	No
14500	9.3E-06	2.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.7E-03	No	No
22000	4.8E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	8.3E-04	No	No
35500	2.3E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	4.1E-04	No	No
50000+	9.3E-07	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.7E-04	No	No
50000++	4.8E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	8.3E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Brameshan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
8500	1.0E-02	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-05	No	No
9500	5.0E-03	7.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.4E-06	No	No
14500	2.0E-03	2.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.2E-06	No	No
22000	1.0E-03	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-06	No	No
35500	5.0E-04	7.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.4E-07	No	No
50000+	2.0E-04	2.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.2E-07	No	No
50000++	1.0E-04	1.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	4.8E-07	60	0.1	16	16	160	3.75	2.8E-06
4000	5.0E-03	2.4E-07	60	0.1	16	16	160	3.75	2.8E-06
7000	2.0E-03	9.6E-08	60	0.1	16	16	160	3.75	2.8E-06
10000	1.0E-03	4.8E-08	60	0.1	16	16	160	3.75	2.8E-06
16000	5.0E-04	2.4E-08	60	0.1	16	16	160	3.75	2.8E-06
30000	2.0E-04	9.6E-09	60	0.1	16	16	160	3.75	2.8E-06
50000	1.0E-04	4.8E-09	60	0.1	16	16	160	3.75	2.8E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
7500	4.6E-05	1.1E-04	17.6	22	16	16	1600	1.10	1.4E-02
10000	2.3E-05	5.7E-05	17.6	22	16	16	1600	1.10	1.4E-02
18000	9.3E-06	2.3E-05	17.6	22	16	16	1600	1.10	1.4E-02
30000	4.6E-06	1.1E-05	17.6	22	16	16	1600	1.10	1.4E-02
50000	2.3E-06	5.7E-06	17.6	22	16	16	1600	1.10	1.4E-02
50000++	9.3E-07	2.3E-06	17.6	22	16	16	1600	1.10	1.4E-02
50000++	4.6E-07	1.1E-06	17.6	22	16	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
7500	1.0E-02	1.5E-05	2	216	16	16	160	0.13	1.4E+00
10000	5.0E-03	7.3E-06	2	216	16	16	160	0.13	1.4E+00
18000	2.0E-03	2.9E-06	2	216	16	16	160	0.13	1.4E+00
30000	1.0E-03	1.5E-06	2	216	16	16	160	0.13	1.4E+00
50000	5.0E-04	7.3E-07	2	216	16	16	160	0.13	1.4E+00
50000+	2.0E-04	2.9E-07	2	216	16	16	160	0.13	1.4E+00
50000++	1.0E-04	1.5E-07	2	216	16	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Racer risk, EPTM

Mobile Smoke - Bailey McCann Hollow and Babb Airfield														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.2E-01	No	No
	4000	5.0E-03	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.1E-01	No	No
	4000	2.0E-03	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.7E-04	4.9E-02	No	No
	5000	1.0E-03	5.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.2E-02	No	No
	5000	5.0E-04	2.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.1E-02	No	No
	7000	2.0E-04	1.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.7E-05	4.9E-03	No	No
	9000	1.0E-04	5.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	4000	4.6E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	1.0E-02	No	No	
	5000	2.3E-05	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	5.0E-03	No	No	
	6000	9.3E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	2.0E-03	No	No	
	7500	4.6E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06	1.0E-03	No	No	
	9500	2.3E-06	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	5.0E-04	No	No	
	14500	9.3E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	2.0E-04	No	No	
	20000	4.6E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	1.0E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-02	1.3E-05	No	No	
	5000	5.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	4.0E-02	6.5E-06	No	No	
	6000	2.0E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	2.6E-06	No	No	
	7500	1.0E-03	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-03	1.3E-06	No	No	
	9500	5.0E-04	8.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	6.5E-07	No	No	
	14500	2.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	1.6E-03	2.6E-07	No	No	
	20000	1.0E-04	1.3E-02	2	216	16	160	0.13	1.4E+00	8.0E-04	1.3E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category B

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.2E-01	No	No
3000	5.0E-03	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.1E-01	No	No
3000	2.0E-03	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	4.5E-02	No	No
4500	1.0E-03	5.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.2E-02	No	No
6500	5.0E-04	2.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.1E-02	No	No
9500	2.0E-04	1.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	4.5E-03	No	No
14000	1.0E-04	5.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	4.6E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.0E-02	No	No
4000	2.3E-05	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	5.0E-03	No	No
5000	9.3E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.0E-03	No	No
8500	4.6E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.0E-03	No	No
12000	2.3E-06	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	5.0E-04	No	No
24000	9.3E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.0E-04	No	No
40000	4.6E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.0E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.3E-05	No	No
4000	5.0E-03	8.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.5E-06	No	No
5000	2.0E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.6E-06	No	No
8500	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.3E-06	No	No
12000	5.0E-04	8.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.5E-07	No	No
24000	2.0E-04	3.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.6E-07	No	No
40000	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Racer risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.2E-01	No
	3000	5.0E-03	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.1E-01	No
	4500	2.0E-03	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	4.5E-02	No
	6000	1.0E-03	5.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.2E-02	No
	9500	5.0E-04	2.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.1E-02	No
	16500	2.0E-04	1.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	4.5E-03	No
26500	1.0E-04	5.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.2E-03	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	4.6E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.0E-02	No
	8500	2.3E-05	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	5.0E-03	No
	14500	9.3E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.0E-03	No
	22000	4.6E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.0E-03	No
	35500	2.3E-06	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	5.0E-04	No
	50000+	9.3E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.0E-04	No
50000++	4.6E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.0E-04	No	
*Acute critical effects are weight loss and lesions of the liver, spleen and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	1.3E-05	No
	8500	5.0E-03	6.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.5E-06	No
	14500	2.0E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.6E-06	No
	22000	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.3E-06	No
	35500	5.0E-04	6.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.5E-07	No
	50000+	2.0E-04	3.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.6E-07	No
50000++	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.3E-07	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-03	2.2E-01	No
	4000	5.0E-03	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-03	1.1E-01	No
	7000	2.0E-03	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-04	4.5E-02	No
	10000	1.0E-03	5.7E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-04	2.2E-02	No
	16000	5.0E-04	2.9E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	1.3E-04	1.1E-02	No
	30000	2.0E-04	1.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-06	5.3E-05	4.5E-03	No
	50000	1.0E-04	5.7E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-06	2.7E-05	2.2E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	4.8E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	4.2E-05	1.0E-02	No
	10000	2.3E-05	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	2.1E-05	5.0E-03	No
	18000	9.3E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	8.4E-06	2.0E-03	No
	30000	4.8E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06	4.2E-06	1.0E-03	No
	50000	2.3E-06	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	2.1E-06	5.0E-04	No
	50000+	9.3E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	8.4E-07	2.0E-04	No
	50000++	4.8E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	4.2E-07	1.0E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacheri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	8.0E-02	1.3E-05	No
	10000	5.0E-03	8.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	4.0E-02	6.5E-06	No
	18000	2.0E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.6E-02	2.6E-06	No
	30000	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	8.0E-03	1.3E-06	No
	50000	5.0E-04	8.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	4.0E-03	6.5E-07	No
	50000+	2.0E-04	3.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.6E-03	2.6E-07	No
	50000++	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	8.0E-04	1.3E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Appendix VI
Intake Calculations for Northern Bobwhite

APPENDIX VI:

Intake Calculations for Northern Bobwhite

INTAKE PARAMETERS FOR NORTHERN BOBWHITES

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

Relocate Current Practice

Northern bobwhite intake, RCP

Static Smoke															
	Distance (m)	Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
				Daily IR	Hourly IR	Event IR									
Inhalation	4000	0.01		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-05				
	4000	0.005		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.8E-06				
	5000	0.002		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-06				
	5000	0.001		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-06				
	6000	0.0005		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.8E-07				
	8000	0.0002		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-07				
	12000	0.0001		1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-07				

Northern bobwhite intake, RCP

Static Smoke		Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation				Daily IR	Hourly IR	Event IR					
		3500	0.01	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-05
		3500	0.005	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.8E-06
		4000	0.002	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-06
		5500	0.001	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-06
		7500	0.0005	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.8E-07
		12000	0.0002	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-07
		18500	0.0001	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-07
		Distance (m)	Fog Oil Deposition (g/m ³)	Pray 1 CF (g/g)	Pray 2 CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion											
		3500	0.01	6.0E-06	1.6E-06	7.5E-06	16.7	9	0.2	3285	2.7E-05
		4000	0.005	3.0E-06	7.9E-07	3.8E-06	16.7	9	0.2	3285	1.3E-05
		5500	0.002	1.2E-06	3.2E-07	1.5E-06	16.7	9	0.2	3285	5.4E-06
		8000	0.001	6.0E-07	1.6E-07	7.5E-07	16.7	9	0.2	3285	2.7E-06
		12000	0.0005	3.0E-07	7.9E-08	3.8E-07	16.7	9	0.2	3285	1.3E-06
		24000	0.0002	1.2E-07	3.2E-08	1.5E-07	16.7	9	0.2	3285	5.4E-07
		40000	0.0001	6.0E-08	1.6E-08	7.5E-08	16.7	9	0.2	3285	2.7E-07
		Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption											
		3500	0.01	0.032	0.032	1	16.7	9	0.2	3285	7.3E-05
		4000	0.005	0.032	0.032	1	16.7	9	0.2	3285	3.7E-05
		5500	0.002	0.032	0.032	1	16.7	9	0.2	3285	1.5E-05
		8000	0.001	0.032	0.032	1	16.7	9	0.2	3285	7.3E-06
		12000	0.0005	0.032	0.032	1	16.7	9	0.2	3285	3.7E-06
		24000	0.0002	0.032	0.032	1	16.7	9	0.2	3285	1.5E-06
		40000	0.0001	0.032	0.032	1	16.7	9	0.2	3285	7.3E-07

Northern bobwhite intake, RCP

Static Smoke																
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)						
Inhalation			Daily IR	Hourly IR	Event IR											
	3500	0.01	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-05						
	4500	0.005	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.9E-06						
	6500	0.002	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-06						
	8500	0.001	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-06						
	12500	0.0005	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	7.9E-07						
	22500	0.0002	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	3.1E-07						
	35500	0.0001	1.1E-01	4.6E-03	6.9E-03	16.7	9	0.2	3285	1.6E-07						
									</							

Pasquill Category D

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Northern bobwhite intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
Distance (m)				Daily IR	Hourly IR	Event IR									
Inhalation															
2500		0.01		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		2.8E-05	
3000		0.005		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		1.4E-05	
4500		0.002		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		5.5E-06	
6000		0.001		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		2.8E-06	
8500		0.0005		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		1.4E-06	
16500		0.0002		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		5.5E-07	
26500		0.0001		1.1E-01	4.6E-03	1.1E-02	17.6	9	0.2			3285		2.8E-07	
Ingestion															
8500		0.01	6.0E-06	1.8E-08	7.5E-06	1.8E+01	17.6	9	0.2			3285		2.8E-05	
8500		0.005	3.0E-06	7.8E-07	3.8E-06	1.8E+01	17.6	9	0.2			3285		1.4E-05	
14500		0.002	1.2E-06	3.2E-07	1.5E-06	1.8E+01	17.6	9	0.2			3285		5.7E-06	
22000		0.001	6.0E-07	1.6E-07	7.5E-07	1.8E+01	17.6	9	0.2			3285		2.8E-06	
35500		0.0005	3.0E-07	7.8E-08	3.8E-07	1.8E+01	17.6	9	0.2			3285		1.4E-06	
50000+		0.0002	1.2E-07	3.2E-08	1.5E-07	1.8E+01	17.6	9	0.2			3285		5.7E-07	
50000++		0.0001	6.0E-08	1.6E-08	7.5E-08	1.8E+01	17.6	9	0.2			3285		2.8E-07	
Dermal Absorption															
8500		0.01		0.032		1	17.6	9	0.2			3285		7.7E-05	
8500		0.005		0.032		1	17.6	9	0.2			3285		3.9E-05	
14500		0.002		0.032		1	17.6	9	0.2			3285		1.5E-05	
22000		0.001		0.032		1	17.6	9	0.2			3285		7.7E-06	
35500		0.0005		0.032		1	17.6	9	0.2			3285		3.9E-06	
50000+		0.0002		0.032		1	17.6	9	0.2			3285		1.5E-06	
50000++		0.0001		0.032		1	17.6	9	0.2			3285		7.7E-07	

Northern bobwhite intake, RCP

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Pasquill Category E

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
4000	0.01	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-05
4000	0.005	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	1.7E-05
4000	0.002	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	6.9E-06
5000	0.001	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-06
5000	0.0005	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	1.7E-06
7000	0.0002	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	6.9E-07
9000	0.0001	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-07
Fog Oil									
Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion									
4000	0.01	8.0E-08	1.6E-08	7.5E-08	1.6E+01	22.0	9	0.2	3285
5000	0.005	3.0E-08	7.9E-07	3.8E-06	1.6E+01	22.0	9	0.2	3285
6000	0.002	1.2E-08	3.2E-07	1.5E-06	1.6E+01	22.0	9	0.2	3285
7500	0.001	8.0E-07	1.6E-07	7.5E-07	1.6E+01	22.0	9	0.2	3285
8500	0.0005	3.0E-07	7.9E-08	3.8E-07	1.6E+01	22.0	9	0.2	3285
14500	0.0002	1.2E-07	3.2E-08	1.5E-07	1.6E+01	22.0	9	0.2	3285
20000	0.0001	8.0E-08	1.6E-08	7.5E-08	1.6E+01	22.0	9	0.2	3285
Dermal Absorption									
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
		ABS							
Dermal Absorption									
4000	0.01	0.032			1	22.0	9	0.2	3285
5000	0.005	0.032			1	22.0	9	0.2	3285
6000	0.002	0.032			1	22.0	9	0.2	3285
7500	0.001	0.032			1	22.0	9	0.2	3285
9500	0.0005	0.032			1	22.0	9	0.2	3285
14500	0.0002	0.032			1	22.0	9	0.2	3285
20000	0.0001	0.032			1	22.0	9	0.2	3285

Northern bobwhite intake, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation										
	3000	0.01	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-05
	3000	0.005	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	1.7E-05
	3000	0.002	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	6.9E-06
	4500	0.001	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-06
	6500	0.0005	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	1.7E-06
	9500	0.0002	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	6.9E-07
	14000	0.0001	1.1E-01	4.6E-03	1.1E-02	22.0	9	0.2	3285	3.4E-07

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Pasquill Category D

Northern bobwhite intake, RCP

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Pasquill Category E

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Operationally Preferred Training Method

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Pasquill Category D

Northern bobwhite intake, OPTM

Static Smoke													
Inhalation	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)			
			Hourly IR		Event IR								
			Daily IR	CF (g/g)									
	4000	0.01	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	6.7E-06			
	5000	0.005	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	3.3E-06			
	9000	0.002	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	1.3E-06			
	14000	0.001	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	6.7E-07			
	24000	0.0005	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	3.3E-07			
	50000	0.0002	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	1.3E-07			
	50000+	0.0001	1.1E-01	4.6E-03	6.9E-03	7.1	9	0.2	3285	6.7E-08			
Ingestion	Distance (m)	Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
	7500	0.01	6.0E-06	1.6E-06	7.5E-06	1.6E+01	7.1	9	0.2	3285	1.1E-05		
	10000	0.005	3.0E-06	7.9E-07	3.8E-06	1.6E+01	7.1	9	0.2	3285	5.7E-06		
	18000	0.002	1.2E-06	3.2E-07	1.5E-06	1.6E+01	7.1	9	0.2	3285	2.3E-06		
	30000	0.001	6.0E-07	1.6E-07	7.5E-07	1.6E+01	7.1	9	0.2	3285	1.1E-06		
	50000	0.0005	3.0E-07	7.9E-08	3.8E-07	1.6E+01	7.1	9	0.2	3285	5.7E-07		
	50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	1.6E+01	7.1	9	0.2	3285	2.3E-07		
	50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	1.6E+01	7.1	9	0.2	3285	1.1E-07		
Dermal Absorption	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
			Area										
	7500	0.01	0.032	1	7.1	9	0.2	3285	3.1E-05				
	10000	0.005	0.032	1	7.1	9	0.2	3285	1.6E-05				
	18000	0.002	0.032	1	7.1	9	0.2	3285	6.2E-06				
	30000	0.001	0.032	1	7.1	9	0.2	3285	3.1E-06				
	50000	0.0005	0.032	1	7.1	9	0.2	3285	1.6E-06				
	50000+	0.0002	0.032	1	7.1	9	0.2	3285	6.2E-07				
	50000++	0.0001	0.032	1	7.1	9	0.2	3285	3.1E-07				

Notthem bobwhite intake, OPTM

Mobile Smoke - Musgrave Hollow										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	4.0E-05
	4000	0.005	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	2.0E-05
	4000	0.002	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	8.0E-06
	5000	0.001	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	4.0E-06
	5000	0.0005	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	2.0E-06
	7000	0.0002	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	8.0E-07
	9000	0.0001	1.1E-01	4.6E-03	1.1E-02	25.3	9	0.2	3285	4.0E-07

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Nothorn bobwhite intake, OPTM

[illegible]

Pasquill Category B

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Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
		Daily IR	Hourly IR						Event IR
Inhalation									
2500	0.01	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	2.0E-05
3000	0.005	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	9.9E-06
4500	0.002	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	4.0E-06
6000	0.001	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	2.0E-06
8500	0.0005	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	9.9E-07
18500	0.0002	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	4.0E-07
28500	0.0001	1.1E-01	4.8E-03	1.1E-02	12.7	9	0.2	3285	2.0E-07
Ingestion									
6500	0.01	6.0E-06	7.5E-08	1.6E+01	12.7	9	0.2	3285	2.0E-05
8500	0.005	3.0E-06	7.9E-07	1.6E+01	12.7	9	0.2	3285	1.0E-05
14500	0.002	1.2E-06	3.2E-07	1.6E+01	12.7	9	0.2	3285	4.1E-06
22000	0.001	6.0E-07	7.5E-07	1.6E+01	12.7	9	0.2	3285	2.0E-06
35500	0.0005	3.0E-07	7.9E-06	1.6E+01	12.7	9	0.2	3285	1.0E-06
50000+	0.0002	1.2E-07	3.2E-06	1.6E+01	12.7	9	0.2	3285	4.1E-07
50000++	0.0001	6.0E-08	7.5E-08	1.6E+01	12.7	9	0.2	3285	2.0E-07
Dermal Absorption									
6500	0.01	0.032		1	12.7	9	0.2	3285	5.6E-05
8500	0.005	0.032		1	12.7	9	0.2	3285	2.8E-05
14500	0.002	0.032		1	12.7	9	0.2	3285	1.1E-05
22000	0.001	0.032		1	12.7	9	0.2	3285	5.6E-06
35500	0.0005	0.032		1	12.7	9	0.2	3285	2.8E-06
50000+	0.0002	0.032		1	12.7	9	0.2	3285	1.1E-06
50000++	0.0001	0.032		1	12.7	9	0.2	3285	5.6E-07

Northern bobwhite intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
	3000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	2.0E-05
	4000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	9.9E-06
	7000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	4.0E-06
	10000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	2.0E-06
	16000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	9.9E-07
	30000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	4.0E-07
	50000	1.1E-01	4.6E-03	1.1E-02	12.7	9	0.2	3285	2.0E-07
Ingestion									
	7500	1.6E-06	7.5E-08	1.6E-01	12.7	9	0.2	3285	2.0E-05
	10000	3.0E-06	7.9E-07	1.6E-01	12.7	9	0.2	3285	1.0E-05
	18000	0.002	1.2E-06	1.6E-01	12.7	9	0.2	3285	4.1E-06
	30000	0.001	6.0E-07	1.6E-01	12.7	9	0.2	3285	2.0E-06
	50000	0.0005	3.0E-07	1.6E-01	12.7	9	0.2	3285	1.0E-06
	50000+	0.0002	1.2E-07	1.6E-01	12.7	9	0.2	3285	4.1E-07
	50000++	0.0001	6.0E-08	1.6E-01	12.7	9	0.2	3285	2.0E-07
Dermal Absorption									
	7500	0.01	0.032	1	12.7	9	0.2	3285	5.6E-05
	10000	0.005	0.032	1	12.7	9	0.2	3285	2.8E-05
	18000	0.002	0.032	1	12.7	9	0.2	3285	1.1E-05
	30000	0.001	0.032	1	12.7	9	0.2	3285	5.6E-06
	50000	0.0005	0.032	1	12.7	9	0.2	3285	2.8E-06
	50000+	0.0002	0.032	1	12.7	9	0.2	3285	1.1E-06
	50000++	0.0001	0.032	1	12.7	9	0.2	3285	5.6E-07

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[illegible]

[illegible]

Pasquill Category D

[illegible]

[illegible]

[illegible]

[illegible]

Pasquill Category D

Northern bobwhite intake, OPTM

[illegible]

Pasquill Category E

Environmentally Preferred Training Method

[illegible]

Pasquill Category B

[illegible]

Northern bobwhite intake, EPTM

[illegible]

Pasquim Category D

[illegible]

[illegible]

Pasquill Category B

[illegible]

Northern bobwhite intake, EPTM

Mobile Smoke - Musgrave Hollow														
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)						
		Daily IR	Hourly IR						Event IR					
Inhalation	2500	0.01	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	2.6E-05				
	3000	0.005	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	1.3E-05				
	4500	0.002	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	5.1E-06				
	6000	0.001	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	2.6E-06				
	9500	0.0005	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	1.3E-06				
	16500	0.0002	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	5.1E-07				
	26500	0.0001	1.1E-01	4.6E-03	1.1E-02	16.3	9	0.2	3285	2.6E-07				
Distance (m)	Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
											Daily IR			
Ingestion	6500	0.01	6.0E-06	1.6E-06	7.5E-06	1.6E+01	16.3	9	0.2	3285	2.6E-05			
	8500	0.005	3.0E-06	7.9E-07	3.8E-06	1.6E+01	16.3	9	0.2	3285	1.3E-05			
	14500	0.002	1.2E-06	3.2E-07	1.5E-06	1.6E+01	16.3	9	0.2	3285	5.3E-06			
	22000	0.001	6.0E-07	1.6E-07	7.5E-07	1.6E+01	16.3	9	0.2	3285	2.6E-06			
	35500	0.0005	3.0E-07	7.9E-08	3.8E-07	1.6E+01	16.3	9	0.2	3285	1.3E-06			
	50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	1.6E+01	16.3	9	0.2	3285	5.3E-07			
	50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	1.6E+01	16.3	9	0.2	3285	2.6E-07			
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)					
Dermal Absorption	6500	0.01	0.032	1	16.3	9	0.2	3285	7.2E-05					
	8500	0.005	0.032	1	16.3	9	0.2	3285	3.6E-05					
	14500	0.002	0.032	1	16.3	9	0.2	3285	1.4E-05					
	22000	0.001	0.032	1	16.3	9	0.2	3285	7.2E-06					
	35500	0.0005	0.032	1	16.3	9	0.2	3285	3.6E-06					
	50000+	0.0002	0.032	1	16.3	9	0.2	3285	1.4E-06					
	50000++	0.0001	0.032	1	16.3	9	0.2	3285	7.2E-07					

Pasquill Category D

[illegible]

[illegible]

Northern bobwhite intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR				AT (days)
	3000	0.01	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	3000	0.005	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	3000	0.002	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	4500	0.001	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	8500	0.0005	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	9500	0.0002	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
	14000	0.0001	1.1E-01	4.8E-03	1.1E-02	8.2	9	0.2	3285
Ingestion		Fog Oil Deposition (g/m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
	3000	0.01	1.6E-06	7.5E-08	1.6E+01	8.2	9	0.2	3285
	4000	0.005	7.9E-07	3.8E-08	1.6E+01	8.2	9	0.2	3285
	5000	0.002	1.2E-06	1.5E-08	1.6E+01	8.2	9	0.2	3285
	8500	0.001	6.0E-07	7.5E-07	1.6E+01	8.2	9	0.2	3285
	12000	0.0005	3.0E-07	3.8E-07	1.6E+01	8.2	9	0.2	3285
	24000	0.0002	1.2E-07	1.5E-07	1.6E+01	8.2	9	0.2	3285
	40000	0.0001	6.0E-08	7.5E-08	1.6E+01	8.2	9	0.2	3285
Dermal Absorption		Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)
	3000	0.01	0.032		1	8.2	9	0.2	3285
	4000	0.005	0.032		1	8.2	9	0.2	3285
	5000	0.002	0.032		1	8.2	9	0.2	3285
	8500	0.001	0.032		1	8.2	9	0.2	3285
	12000	0.0005	0.032		1	8.2	9	0.2	3285
	24000	0.0002	0.032		1	8.2	9	0.2	3285
	40000	0.0001	0.032		1	8.2	9	0.2	3285

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Pasquill Category D

[illegible]

[illegible]

[illegible]

Northern bobwhite intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Inhalation			Daily IR	Hourly IR	Event IR						
	2500	0.01	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	1.6E-05	
	3000	0.005	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	8.0E-06	
	4500	0.002	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	3.2E-06	
	6000	0.001	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	1.6E-06	
	9500	0.0005	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	8.0E-07	
	16500	0.0002	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	3.2E-07	
	26500	0.0001	1.1E-01	4.6E-03	1.1E-02	10.2	9	0.2	3285	1.6E-07	
	Distance (m)	Fog Oil Deposition (g/m ³)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion	6500	0.01	6.0E-06	1.6E-06	7.5E-06	1.6E+01	10.2	9	0.2	3285	1.6E-05
	8500	0.005	3.0E-06	7.9E-07	3.8E-06	1.6E+01	10.2	9	0.2	3285	8.2E-06
	14500	0.002	1.2E-06	3.2E-07	1.5E-06	1.6E+01	10.2	9	0.2	3285	3.3E-06
	22000	0.001	6.0E-07	1.6E-07	7.5E-07	1.6E+01	10.2	9	0.2	3285	1.6E-06
	35500	0.0005	3.0E-07	7.9E-08	3.8E-07	1.6E+01	10.2	9	0.2	3285	8.2E-07
	50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	1.6E+01	10.2	9	0.2	3285	3.3E-07
	50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	1.6E+01	10.2	9	0.2	3285	1.6E-07
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption	6500	0.01	0.032		1	10.2	9	0.2	3285	4.5E-05	
	8500	0.005	0.032		1	10.2	9	0.2	3285	2.2E-05	
	14500	0.002	0.032		1	10.2	9	0.2	3285	8.9E-06	
	22000	0.001	0.032		1	10.2	9	0.2	3285	4.5E-06	
	35500	0.0005	0.032		1	10.2	9	0.2	3285	2.2E-06	
	50000+	0.0002	0.032		1	10.2	9	0.2	3285	8.9E-07	
	50000++	0.0001	0.032		1	10.2	9	0.2	3285	4.5E-07	

Pasquill Category D

[illegible]

Northern bobwhite intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	4000	0.01	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-05	
	4000	0.005	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	9.6E-06	
	4000	0.002	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	3.8E-06	
	5000	0.001	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-06	
	5000	0.0005	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	9.6E-07	
	7000	0.0002	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	3.8E-07	
	9000	0.0001	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-07	
Ingestion	4000	0.01	6.0E-06	1.6E-06	1.6E+01	12.3	9	0.2	3285	2.0E-05	
	5000	0.005	3.0E-06	7.9E-07	1.6E+01	12.3	9	0.2	3285	9.9E-06	
	6000	0.002	1.2E-06	3.2E-07	1.6E+01	12.3	9	0.2	3285	3.9E-06	
	7500	0.001	6.0E-07	1.6E-07	1.6E+01	12.3	9	0.2	3285	2.0E-06	
	9500	0.0005	3.0E-07	7.9E-08	1.6E+01	12.3	9	0.2	3285	9.9E-07	
	14500	0.0002	1.2E-07	3.2E-08	1.6E+01	12.3	9	0.2	3285	3.9E-07	
	20000	0.0001	6.0E-08	1.6E-08	1.6E+01	12.3	9	0.2	3285	2.0E-07	
Dermal Absorption	4000	0.01		0.032		1	12.3	9	0.2	3285	5.4E-05
	5000	0.005		0.032		1	12.3	9	0.2	3285	2.7E-05
	6000	0.002		0.032		1	12.3	9	0.2	3285	1.1E-05
	7500	0.001		0.032		1	12.3	9	0.2	3285	5.4E-06
	9500	0.0005		0.032		1	12.3	9	0.2	3285	2.7E-06
	14500	0.0002		0.032		1	12.3	9	0.2	3285	1.1E-06
	20000	0.0001		0.032		1	12.3	9	0.2	3285	5.4E-07

Pasquill Category B

[illegible]

Northern bobwhite intake, EPTM

[illegible]

Pasquill Category D

Northern bobwhite intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ² /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation										
	3000	0.01	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-05
	4000	0.005	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	9.6E-06
	7000	0.002	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	3.8E-06
	10000	0.001	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-06
	18000	0.0005	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	9.6E-07
	30000	0.0002	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	3.8E-07
	50000	0.0001	1.1E-01	4.6E-03	1.1E-02	12.3	9	0.2	3285	1.9E-07

Pasquill Category E

Appendix VII
Risk Characterization Tables
for Northern Bobwhite

APPENDIX VII:

Risk Characterization Tables for Northern Bobwhite

RISK PARAMETERS FOR NORTHERN BOBWHITES

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Relocate Current Practice

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	2.7E-03	2.3E-01	No	No
	4000	5.0E-03	7.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	1.3E-03	1.1E-01	No	No
	5000	2.0E-03	3.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	5.3E-04	4.6E-02	No	No
	5000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	2.7E-04	2.3E-02	No	No
	6000	5.0E-04	7.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	1.3E-04	1.1E-02	No	No
	8000	2.0E-04	3.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	5.3E-05	4.6E-03	No	No
	12000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	4000	7.5E-08	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	6.8E-06	1.4E-02	6.8E-06	2.0E-03	No	No
	5000	3.8E-08	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	3.4E-06	1.4E-02	3.4E-06	9.8E-04	No	No
	6000	1.5E-08	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-06	1.4E-02	1.4E-06	3.9E-04	No	No
	7000	7.5E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-07	1.4E-02	6.8E-07	2.0E-04	No	No
	9500	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	3.4E-07	1.4E-02	3.4E-07	9.8E-05	No	No
	14000	1.5E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-07	1.4E-02	1.4E-07	3.9E-05	No	No
	20000	7.5E-08	2.7E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-08	1.4E-02	6.8E-08	2.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02	1.4E+00	8.0E-02	5.4E-05	No	No
	5000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	4.0E-02	1.4E+00	4.0E-02	2.7E-05	No	No
	6000	2.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.6E-02	1.4E+00	1.6E-02	1.1E-05	No	No
	7000	1.0E-03	7.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	1.4E+00	8.0E-03	5.4E-06	No	No
	9500	5.0E-04	3.7E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	1.4E+00	4.0E-03	2.7E-06	No	No
	14000	2.0E-04	1.5E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.4E+00	1.6E-03	1.1E-06	No	No
	20000	1.0E-04	7.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.4E+00	8.0E-04	5.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Northern bobwhite risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No	No
	3500	5.0E-03	7.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.1E-01	No	No
	4000	2.0E-03	3.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	4.8E-02	No	No
	5500	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No	No
	7500	5.0E-04	7.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.1E-02	No	No
	12000	2.0E-04	3.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	4.8E-03	No	No
	18500	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	7.5E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	2.0E-03	No	No
	4000	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-08	9.8E-04	No	No
	5500	1.5E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-08	3.9E-04	No	No
	8000	7.5E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-07	2.0E-04	No	No
	12000	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.8E-05	No	No
	24000	1.5E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.9E-05	No	No
	40000	7.5E-08	2.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	2.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.4E-05	No	No
	4000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No	No
	5500	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	8000	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.4E-06	No	No
	12000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No	No
	24000	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
	40000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No	No
	4500	5.0E-03	7.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.1E-01	No	No
	6500	2.0E-03	3.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	4.6E-02	No	No
	8500	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No	No
	12500	5.0E-04	7.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.1E-02	No	No
	22500	2.0E-04	3.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	4.6E-03	No	No
	35500	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	6500	7.5E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-06	2.0E-03	No	No
	8500	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	9.8E-04	No	No
	14000	1.9E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.9E-04	No	No
	22000	7.5E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-07	2.0E-04	No	No
	35500	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.8E-05	No	No
	50000+	1.9E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.9E-05	No	No
	50000++	7.5E-08	2.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	2.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	6500	1.0E-02	1.7E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.4E-05	No	No
	8500	5.0E-03	3.7E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No	No
	14000	2.0E-03	1.9E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	22000	1.0E-03	7.3E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.4E-06	No	No
	35500	5.0E-04	3.7E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No	No
	50000+	2.0E-04	1.9E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
	50000++	1.0E-04	7.3E-01	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No	No
	5000	5.0E-03	7.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.1E-01	No	No
	9000	2.0E-03	3.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	4.6E-02	No	No
	14000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No	No
	24000	5.0E-04	7.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.1E-02	No	No
	50000	2.0E-04	3.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	4.6E-03	No	No
	50000+	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	7500	7.5E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	2.0E-03	No	No
	10000	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	9.8E-04	No	No
	18000	1.5E-06	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.9E-04	No	No
	30000	7.5E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	2.0E-04	No	No
	50000	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.8E-05	No	No
	50000+	1.5E-07	5.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.9E-05	No	No
	50000++	7.5E-08	2.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	2.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.4E-05	No	No
	10000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No	No
	18000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	30000	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.4E-06	No	No
	50000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No	No
	50000+	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
	50000++	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	5.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	8.0E-01	No	No
4000	5.0E-03	2.8E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.0E-01	No	No
4000	2.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.6E-01	No	No
5000	1.0E-03	5.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	8.0E-02	No	No
5000	5.0E-04	2.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.0E-02	No	No
7000	2.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.6E-02	No	No
8000	1.0E-04	5.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	8.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	7.5E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	4.1E-03	No	No
5000	3.8E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	2.1E-03	No	No
6000	1.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	8.2E-04	No	No
7500	7.5E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	4.1E-04	No	No
9500	3.8E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	2.1E-04	No	No
14500	1.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	8.2E-05	No	No
20000	7.5E-08	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	4.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No	No
5000	5.0E-03	7.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
6000	2.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No	No
7500	1.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No	No
9500	5.0E-04	7.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No	No
14500	2.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No	No
20000	1.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	5.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	8.0E-01	No	No
4000	5.0E-03	2.8E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.0E-01	No	No
5000	2.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.6E-01	No	No
6500	1.0E-03	5.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	8.0E-02	No	No
9500	5.0E-04	2.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.0E-02	No	No
14000	2.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.6E-02	No	No
	1.0E-04	5.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	8.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	4.1E-03	No	No
4000	3.9E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	2.1E-03	No	No
5000	1.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	8.2E-04	No	No
8500	7.5E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	4.1E-04	No	No
12000	3.9E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	2.1E-04	No	No
24000	1.9E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	8.2E-05	No	No
40000	7.5E-08	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	4.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No	No
4000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
5000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	2.0E-02	2.8E-05	No	No
8500	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.0E-02	1.4E-05	No	No
12000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	5.0E-03	7.0E-06	No	No
24000	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	2.0E-03	2.8E-06	No	No
40000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.0E-03	1.4E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	5.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	8.0E-01	No	No
3000	5.0E-03	2.8E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.0E-01	No	No
4500	2.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.6E-01	No	No
6000	1.0E-03	5.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	8.0E-02	No	No
9500	5.0E-04	2.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.0E-02	No	No
16500	2.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.6E-02	No	No
26500	1.0E-04	5.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	8.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	7.5E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-05	4.1E-03	No	No
8500	3.8E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-05	2.1E-03	No	No
14500	1.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-05	8.2E-04	No	No
22000	7.5E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	4.1E-04	No	No
35500	3.8E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	2.1E-04	No	No
50000+	1.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	8.2E-05	No	No
50000++	7.5E-08	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	4.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	1.5E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No	No
8500	5.0E-03	7.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
14500	2.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No	No
22000	1.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No	No
35500	5.0E-04	7.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No	No
50000+	2.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No	No
50000++	1.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	5.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	8.0E-01	No	No
4000	5.0E-03	2.8E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.0E-01	No	No
7000	2.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.6E-01	No	No
10000	1.0E-03	5.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	8.0E-02	No	No
16000	5.0E-04	2.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.0E-02	No	No
30000	2.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.6E-02	No	No
50000	1.0E-04	5.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	8.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	5.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	4.1E-03	No	No
10000	3.8E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	2.1E-03	No	No
18000	1.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	8.2E-04	No	No
30000	7.5E-07	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	4.1E-04	No	No
50000	3.8E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	2.1E-04	No	No
50000+	1.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	8.2E-05	No	No
50000++	7.5E-08	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	4.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No	No
10000	5.0E-03	7.7E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
18000	2.0E-03	3.1E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No	No
30000	1.0E-03	1.5E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No	No
50000	5.0E-04	7.7E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No	No
50000+	2.0E-04	3.1E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No	No
50000++	1.0E-04	1.5E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	2.8E-05	60	0.1	18	180	3.75	6.3E-04	6.0E-05
4000	5.0E-03	1.4E-05	60	0.1	18	180	3.75	6.3E-04	6.0E-05
4000	2.0E-03	5.5E-06	60	0.1	18	180	3.75	6.3E-04	6.0E-05
5000	1.0E-03	2.8E-06	60	0.1	18	180	3.75	6.3E-04	6.0E-05
5000	5.0E-04	1.4E-06	60	0.1	18	180	3.75	6.3E-04	6.0E-05
7000	2.0E-04	5.5E-07	60	0.1	18	180	3.75	6.3E-04	6.0E-05
9000	1.0E-04	2.8E-07	60	0.1	18	180	3.75	6.3E-04	6.0E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
4000	7.5E-08	2.8E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
5000	3.8E-08	1.4E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
6000	1.5E-08	5.7E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
7500	7.5E-07	2.8E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
9500	3.8E-07	1.4E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
14500	1.5E-07	5.7E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
20000	7.5E-08	2.8E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
4000	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
5000	5.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
6000	2.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
7500	1.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
9500	5.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
14500	2.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
20000	1.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)													
		2500	1.0E-02	2.8E-05	60	0.1	16	160	3.75	6.9E-05	2.7E-03	4.0E-01	No	No
		3000	5.0E-03	1.4E-05	60	0.1	16	160	3.75	6.9E-05	1.3E-03	2.0E-01	No	No
		4500	2.0E-03	5.5E-06	60	0.1	16	160	3.75	6.9E-05	5.3E-04	8.0E-02	No	No
		6000	1.0E-03	2.8E-06	60	0.1	16	160	3.75	6.9E-05	2.7E-04	4.0E-02	No	No
		9500	5.0E-04	1.4E-06	60	0.1	16	160	3.75	6.9E-05	1.3E-04	2.0E-02	No	No
		16500	2.0E-04	5.5E-07	60	0.1	16	160	3.75	6.9E-05	5.3E-05	8.0E-03	No	No
Ingestion	Distance (m)													
		6500	7.5E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	6.8E-06	2.1E-03	No	No
		8500	3.9E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	3.4E-06	1.0E-03	No	No
		14500	1.5E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-06	4.1E-04	No	No
		22000	7.5E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-07	2.1E-04	No	No
		35500	3.9E-07	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	3.4E-07	1.0E-04	No	No
		50000+	1.5E-07	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-07	4.1E-05	No	No
Dermal Absorption	Distance (m)													
		6500	1.0E-02	7.7E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	5.7E-05	No	No
		8500	5.0E-03	3.9E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	2.9E-05	No	No
		14500	2.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.6E-02	1.1E-02	No	No
		22000	1.0E-03	7.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	5.7E-06	No	No
		35500	5.0E-04	3.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	2.9E-06	No	No
		50000+	2.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-03	1.1E-06	No	No
Dermal Irritation	Distance (m)													
		6500	1.0E-02	7.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	5.7E-07	No	No
		8500	5.0E-03	3.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-04	2.9E-07	No	No
		14500	2.0E-03	1.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-04	1.1E-07	No	No
		22000	1.0E-03	7.7E-08	2	216	16	160	0.13	1.4E+00	8.0E-05	5.7E-08	No	No
		35500	5.0E-04	3.9E-08	2	216	16	160	0.13	1.4E+00	4.0E-05	2.9E-08	No	No
		50000+	2.0E-04	1.5E-08	2	216	16	160	0.13	1.4E+00	1.6E-05	1.1E-08	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Irritation	Distance (m)													
		6500	1.0E-02	7.7E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	5.7E-05	No	No
		8500	5.0E-03	3.9E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	2.9E-05	No	No
		14500	2.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.6E-02	1.1E-02	No	No
		22000	1.0E-03	7.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	5.7E-06	No	No
		35500	5.0E-04	3.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	2.9E-06	No	No
		50000+	2.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-03	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.9E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	4.0E-01	No	No
4000	5.0E-03	1.4E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.0E-01	No	No
7000	2.0E-03	5.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	6.0E-02	No	No
10000	1.0E-03	2.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	4.0E-02	No	No
18000	5.0E-04	1.4E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.0E-02	No	No
30000	2.0E-04	5.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	6.0E-03	No	No
50000	1.0E-04	2.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	4.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.0E-02	No	No
10000	3.8E-06	7.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	5.1E-03	No	No
18000	1.5E-06	2.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.1E-03	No	No
30000	7.5E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.0E-03	No	No
50000	3.8E-07	7.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	5.1E-04	No	No
50000+	1.5E-07	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.1E-04	No	No
50000++	7.5E-08	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.0E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	3.9E-04	2	216	16	180	0.13	1.4E+00	8.0E-02	2.9E-04	No	No
10000	5.0E-03	3.2E-02	1.9E-04	2	216	16	180	0.13	1.4E+00	4.0E-02	1.4E-04	No	No
18000	2.0E-03	3.2E-02	7.7E-05	2	216	16	180	0.13	1.4E+00	1.6E-02	5.7E-05	No	No
30000	1.0E-03	3.2E-02	3.9E-05	2	216	16	180	0.13	1.4E+00	8.0E-03	2.9E-05	No	No
50000	5.0E-04	3.2E-02	1.9E-05	2	216	16	180	0.13	1.4E+00	4.0E-03	1.4E-05	No	No
50000+	2.0E-04	3.2E-02	7.7E-06	2	216	16	180	0.13	1.4E+00	1.6E-03	5.7E-06	No	No
50000++	1.0E-04	3.2E-02	3.9E-06	2	216	16	180	0.13	1.4E+00	8.0E-04	2.9E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Puddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	3.4E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-03	5.0E-01	No	No
4000	5.0E-03	1.7E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	2.5E-01	No	No
4000	2.0E-03	6.9E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	1.0E-01	No	No
5000	1.0E-03	3.4E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	5.0E-02	No	No
5000	5.0E-04	1.7E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	2.5E-02	No	No
7000	2.0E-04	6.9E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-05	1.0E-02	No	No
8000	1.0E-04	3.4E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	5.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	7.5E-06	3.5E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-06	2.6E-03	No	No
5000	3.8E-06	1.8E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-06	1.3E-03	No	No
6000	1.5E-06	7.1E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-06	5.1E-04	No	No
7500	7.5E-07	3.5E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-07	2.6E-04	No	No
9500	3.8E-07	1.8E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-07	1.3E-04	No	No
14500	1.5E-07	7.1E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-07	5.1E-05	No	No
20000	7.5E-08	3.5E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-08	2.6E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	7.1E-05	No	No
5000	5.0E-03	1.6E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No	No
6000	2.0E-03	6.4E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No	No
7500	1.0E-03	3.2E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No	No
9500	5.0E-04	1.6E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No	No
14500	2.0E-04	6.4E-04	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No	No
20000	1.0E-04	3.2E-04	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.4E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.0E-01	No	No
3000	5.0E-03	1.7E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.5E-01	No	No
3000	2.0E-03	6.9E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.0E-01	No	No
4500	1.0E-03	3.4E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.0E-02	No	No
6500	5.0E-04	1.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.5E-02	No	No
9500	2.0E-04	6.9E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.0E-02	No	No
14000	1.0E-04	3.4E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-08	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	2.8E-03	No	No
4000	3.8E-08	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.3E-03	No	No
5000	1.5E-08	7.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	5.1E-04	No	No
8500	7.5E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	2.8E-04	No	No
12000	3.8E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.3E-04	No	No
24000	1.5E-07	7.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.1E-05	No	No
40000	7.5E-08	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	2.8E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	7.1E-05	No	No
4000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.8E-05	No	No
5000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No	No
8500	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No	No
12000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.8E-06	No	No
24000	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No	No
40000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
	2500	3.4E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.0E-01	No	No
	3000	1.7E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.5E-01	No	No
	4500	6.9E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.0E-01	No	No
	6000	3.4E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.0E-02	No	No
	9500	1.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.5E-02	No	No
	16500	6.9E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.0E-02	No	No
	26500	3.4E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
	6500	7.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-06	2.6E-03	No	No
	8500	3.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.3E-03	No	No
	14500	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	5.1E-04	No	No
	22000	7.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-07	2.6E-04	No	No
	35500	3.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.3E-04	No	No
	50000	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.1E-05	No	No
	50000++	7.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	2.6E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.1E-05	No	No
	8500	5.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No	No
	14500	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No	No
	22000	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No	No
	35500	5.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No	No
	50000+	2.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No	No
	50000++	1.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Puddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.4E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.0E-01	No
	4000	5.0E-03	1.7E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.5E-01	No
	7000	2.0E-03	6.9E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.0E-01	No
	10000	1.0E-03	3.4E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.0E-02	No
	16000	5.0E-04	1.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.5E-02	No
	30000	2.0E-04	6.9E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.0E-02	No
	50000	1.0E-04	3.4E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.0E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	7.5E-06	3.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	2.6E-03	No
	10000	3.8E-06	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.3E-03	No
	18000	1.5E-06	7.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	5.1E-04	No
	30000	7.5E-07	3.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	2.6E-04	No
	50000	3.8E-07	1.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.3E-04	No
	50000+	1.5E-07	7.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.1E-05	No
	50000++	7.5E-08	3.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	2.6E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	9.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.1E-05	No
	10000	5.0E-03	4.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No
	18000	2.0E-03	1.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No
	30000	1.0E-03	9.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No
	50000	5.0E-04	4.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No
	50000+	2.0E-04	1.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No
	50000++	1.0E-04	9.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	4.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05
4000	5.0E-03	2.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05
4000	2.0E-03	8.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
5000	1.0E-03	4.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
5000	5.0E-04	2.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
7000	2.0E-04	8.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05
8000	1.0E-04	4.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
4000	7.5E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
5000	3.8E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
6000	1.5E-06	8.5E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
7500	7.5E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
9500	3.8E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
14500	1.5E-07	8.5E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
20000	7.5E-08	4.2E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
5000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
6000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
7500	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
9500	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
14500	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
20000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	4.1E-05	80	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-03	8.0E-01	No	No
3000	5.0E-03	2.1E-05	80	0.1	18	180	3.75	6.3E-04	6.9E-05	1.3E-03	3.0E-01	No	No
3000	2.0E-03	8.3E-06	80	0.1	18	180	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No	No
4500	1.0E-03	4.1E-06	80	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-04	6.0E-02	No	No
6500	5.0E-04	2.1E-06	80	0.1	18	180	3.75	6.3E-04	6.9E-05	1.3E-04	3.0E-02	No	No
9500	2.0E-04	8.3E-07	80	0.1	18	180	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No	No
14000	1.0E-04	4.1E-07	80	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-05	6.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-06	4.2E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-06	3.1E-03	No	No
4000	3.8E-06	2.1E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-06	1.5E-03	No	No
5000	1.5E-06	8.5E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-06	6.2E-04	No	No
8500	7.5E-07	4.2E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	3.1E-04	No	No
12000	3.8E-07	2.1E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No	No
24000	1.5E-07	8.5E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	6.2E-05	No	No
40000	7.5E-08	4.2E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	3.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	8.0E-05	No	No
4000	5.0E-03	5.9E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-05	No	No
5000	2.0E-03	2.3E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-05	No	No
8500	1.0E-03	1.2E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	8.0E-06	No	No
12000	5.0E-04	5.9E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-06	No	No
24000	2.0E-04	2.3E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-06	No	No
40000	1.0E-04	1.2E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	8.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	4.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	6.0E-01	No
	3000	5.0E-03	2.1E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	3.0E-01	No
	4500	2.0E-03	8.3E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No
	6000	1.0E-03	4.1E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	6.0E-02	No
	8500	5.0E-04	2.1E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	3.0E-02	No
	16500	2.0E-04	8.3E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No
	26500	1.0E-04	4.1E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	6.0E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	7.5E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	3.1E-03	No
	8500	3.8E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.5E-03	No
	14500	1.5E-06	8.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	6.2E-04	No
	22000	7.5E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.1E-04	No
	35500	3.8E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No
	50000+	1.5E-07	8.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	6.2E-05	No
	50000++	7.5E-08	4.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.1E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	1.2E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	6.6E-05	No
	8500	5.0E-03	5.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.3E-05	No
	14500	2.0E-03	2.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	1.7E-05	No
	22000	1.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.6E-06	No
	35500	5.0E-04	5.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.3E-06	No
	50000+	2.0E-04	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	1.7E-06	No
	50000++	1.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.6E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	4.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	6.0E-01	No	No
4000	5.0E-03	2.1E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	3.0E-01	No	No
7000	2.0E-03	8.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No	No
10000	1.0E-03	4.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	6.0E-02	No	No
18000	5.0E-04	2.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	3.0E-02	No	No
30000	2.0E-04	8.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No	No
50000	1.0E-04	4.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	6.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	3.1E-03	No	No
10000	3.8E-06	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.5E-03	No	No
18000	1.5E-06	8.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	6.2E-04	No	No
30000	7.5E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.1E-04	No	No
50000	3.8E-07	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No	No
50000+	1.5E-07	8.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	6.2E-05	No	No
50000++	7.5E-08	4.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Derally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	1.2E-04	2	216	16	160	0.13	1.4E+00	8.0E-02	8.0E-05	No	No
10000	5.0E-03	3.2E-02	5.8E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	4.3E-05	No	No
18000	2.0E-03	3.2E-02	2.3E-05	2	216	16	160	0.13	1.4E+00	1.6E-02	1.7E-05	No	No
30000	1.0E-03	3.2E-02	1.2E-05	2	216	16	160	0.13	1.4E+00	8.0E-03	8.0E-06	No	No
50000	5.0E-04	3.2E-02	5.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	4.3E-06	No	No
50000+	2.0E-04	3.2E-02	2.3E-06	2	216	16	160	0.13	1.4E+00	1.6E-03	1.7E-06	No	No
50000++	1.0E-04	3.2E-02	1.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-04	8.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Operationally Preferred Training Method

Northern bobwhite risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	6.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	9.7E-02	No	No
	4000	5.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.9E-02	No	No
	5000	2.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.9E-02	No	No
	5000	1.0E-03	6.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	9.7E-03	No	No
	6000	5.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.9E-03	No	No
	8000	2.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.9E-03	No	No
	12000	1.0E-04	6.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	9.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	7.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	8.3E-04	No	No
	5000	3.8E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.1E-04	No	No
	6000	1.5E-06	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.7E-04	No	No
	7000	7.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	8.3E-05	No	No
	8500	3.8E-07	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.1E-05	No	No
	14000	1.5E-07	2.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.7E-05	No	No
	20000	7.5E-08	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	8.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	1.0E-02	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-05	No	No
	5000	5.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
	6000	2.0E-03	6.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.6E-06	No	No
	7000	1.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-06	No	No
	9500	5.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
	14000	2.0E-04	6.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.6E-07	No	No
	20000	1.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	6.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	9.7E-02	No	No
	3500	5.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.9E-02	No	No
	4000	2.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.9E-02	No	No
	5500	1.0E-03	6.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	9.7E-03	No	No
	7500	5.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.9E-03	No	No
	12000	2.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.9E-03	No	No
	18500	1.0E-04	6.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	9.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	7.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	8.3E-06	No	No
	4000	3.8E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.1E-04	No	No
	5500	1.5E-06	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.7E-04	No	No
	8000	7.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	8.3E-05	No	No
	12000	3.8E-07	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.1E-05	No	No
	24000	1.5E-07	2.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.7E-05	No	No
	40000	7.5E-08	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	8.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dormally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1.0E-02	3.2E-02	3.1E-05	2	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-05	No	No
	4000	5.0E-03	3.2E-02	1.6E-05	2	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
	5500	2.0E-03	3.2E-02	6.2E-06	2	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.6E-06	No	No
	8000	1.0E-03	3.2E-02	3.1E-06	2	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-06	No	No
	12000	5.0E-04	3.2E-02	1.6E-06	2	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
	24000	2.0E-04	3.2E-02	6.2E-07	2	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.6E-07	No	No
	40000	1.0E-04	3.2E-02	3.1E-07	2	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	6.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	9.7E-02	No	No
	4500	5.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.9E-02	No	No
	6500	2.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.9E-02	No	No
	8500	1.0E-03	6.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	9.7E-03	No	No
	12500	5.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.9E-03	No	No
	22500	2.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.9E-03	No	No
	35500	1.0E-04	6.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	9.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	6500	7.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	9.3E-04	No	No
	8500	3.8E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.1E-04	No	No
	14000	1.5E-06	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.7E-04	No	No
	22000	7.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	8.3E-05	No	No
	35500	3.8E-07	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.1E-05	No	No
	50000+	1.5E-07	2.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.7E-05	No	No
	50000++	7.5E-08	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	8.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	6500	1.0E-02	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-05	No	No
	8500	5.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
	14000	2.0E-03	6.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.6E-06	No	No
	22000	1.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-06	No	No
	35500	5.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
	50000+	2.0E-04	6.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.6E-07	No	No
	50000++	1.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	6.7E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	9.7E-02	No	No
	5000	5.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	4.9E-02	No	No
	9000	2.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.9E-02	No	No
	14000	1.0E-03	6.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	9.7E-03	No	No
	24000	5.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	4.9E-03	No	No
	50000	2.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.9E-03	No	No
	50000++	1.0E-04	6.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	9.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	7500	7.5E-06	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	8.3E-04	No	No
	10000	3.8E-06	5.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.1E-04	No	No
	18000	1.5E-06	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.7E-04	No	No
	30000	7.5E-07	1.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	8.3E-05	No	No
	50000	3.8E-07	5.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.1E-05	No	No
	50000+	1.5E-07	2.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.7E-05	No	No
	50000++	7.5E-08	1.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	8.3E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-05	No	No
	10000	5.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-05	No	No
	18000	2.0E-03	6.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.6E-06	No	No
	30000	1.0E-03	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-06	No	No
	50000	5.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-06	No	No
	50000+	2.0E-04	6.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.6E-07	No	No
	50000++	1.0E-04	3.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, OPTM

Mobile Smoke - Muggrave Hollow		Distance (m)		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	4000	4.0E-05	60	0.1	0.1	16	16	160	160	6.9E-05	2.7E-03	5.8E-01	No	No
	5000	5.0E-03	5000	2.0E-05	60	0.1	0.1	16	16	160	160	6.9E-05	1.3E-03	2.9E-01	No	No
	6000	2.0E-03	6000	8.0E-06	60	0.1	0.1	16	16	160	160	6.9E-05	5.3E-04	1.2E-01	No	No
	7500	1.0E-03	7500	4.0E-06	60	0.1	0.1	16	16	160	160	6.9E-05	2.7E-04	5.8E-02	No	No
	9500	5.0E-04	9500	2.0E-06	60	0.1	0.1	16	16	160	160	6.9E-05	1.3E-04	2.9E-02	No	No
	14500	2.0E-04	14500	8.0E-07	60	0.1	0.1	16	16	160	160	6.9E-05	5.3E-05	1.2E-02	No	No
	20000	1.0E-04	20000	4.0E-07	60	0.1	0.1	16	16	160	160	6.9E-05	2.7E-05	5.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																
Ingestion		Distance (m)		Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	7.5E-06	4000	4.1E-05	17.6	22	22	16	16	1600	1600	1.4E-02	6.8E-06	3.0E-03	No	No
	5000	3.9E-06	5000	2.0E-05	17.6	22	22	16	16	1600	1600	1.4E-02	3.4E-06	1.5E-03	No	No
	6000	1.5E-06	6000	8.2E-06	17.6	22	22	16	16	1600	1600	1.4E-02	1.4E-06	5.8E-04	No	No
	7500	7.5E-07	7500	4.1E-06	17.6	22	22	16	16	1600	1600	1.4E-02	6.8E-07	3.0E-04	No	No
	9500	3.9E-07	9500	2.0E-06	17.6	22	22	16	16	1600	1600	1.4E-02	3.4E-07	1.5E-04	No	No
	14500	1.5E-07	14500	8.2E-07	17.6	22	22	16	16	1600	1600	1.4E-02	1.4E-07	5.8E-05	No	No
	20000	7.5E-08	20000	4.1E-07	17.6	22	22	16	16	1600	1600	1.4E-02	6.8E-08	3.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																
Dermal Absorption		Distance (m)		Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	4000	3.2E-02	3.2E-02	2.8E-04	2	216	16	160	160	1.4E-00	8.0E-02	2.1E-04	No	No
	5000	5.0E-03	5000	3.2E-02	3.2E-02	1.4E-04	2	216	16	160	160	1.4E-00	4.0E-02	1.0E-04	No	No
	6000	2.0E-03	6000	3.2E-02	3.2E-02	5.6E-05	2	216	16	160	160	1.4E-00	1.6E-02	4.1E-05	No	No
	7500	1.0E-03	7500	3.2E-02	3.2E-02	2.8E-05	2	216	16	160	160	1.4E-00	8.0E-03	2.1E-05	No	No
	9500	5.0E-04	9500	3.2E-02	3.2E-02	1.4E-05	2	216	16	160	160	1.4E-00	4.0E-03	1.0E-05	No	No
	14500	2.0E-04	14500	3.2E-02	3.2E-02	5.6E-06	2	216	16	160	160	1.4E-00	1.6E-03	4.1E-06	No	No
	20000	1.0E-04	20000	3.2E-02	3.2E-02	2.8E-06	2	216	16	160	160	1.4E-00	8.0E-04	2.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Northern bobwhite risk, OPTM

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation		1.0E-02	4.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.8E-01	No	No
	3000	5.0E-03	2.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.9E-01	No	No
	3000	2.0E-03	8.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No	No
	4500	1.0E-03	4.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.8E-02	No	No
	6500	5.0E-04	2.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.9E-02	No	No
	9500	2.0E-04	8.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No	No
	14000	1.0E-04	4.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion		7.5E-06	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	3.0E-03	No	No
	3000	3.8E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.5E-03	No	No
	5000	1.5E-06	8.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	5.9E-04	No	No
	8500	7.5E-07	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.0E-04	No	No
	12000	3.8E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No	No
	24000	1.5E-07	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.9E-05	No	No
	40000	7.5E-08	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption		1.0E-02	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.2E-05	No	No
	3000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.1E-05	No	No
	4000	2.0E-03	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.6E-05	No	No
	5000	1.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.2E-06	No	No
	8500	5.0E-04	5.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.1E-06	No	No
	12000	2.0E-04	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.6E-06	No	No
	24000	1.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	4.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.8E-01	No
	3000	5.0E-03	2.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.9E-01	No
	4500	2.0E-03	8.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No
	6000	1.0E-03	4.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.8E-02	No
	9500	5.0E-04	2.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.9E-02	No
	16500	2.0E-04	8.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No
	26500	1.0E-04	4.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.8E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	7.5E-08	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.0E-03	No
	8500	3.8E-08	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-08	1.5E-03	No
	14500	1.5E-08	8.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-08	5.9E-04	No
	22000	7.5E-07	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.0E-04	No
	35500	3.8E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No
	50000+	1.5E-07	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.9E-05	No
	50000++	7.5E-08	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.0E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.2E-05	No
	8500	5.0E-03	5.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.1E-05	No
	14500	2.0E-03	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.6E-05	No
	22000	1.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.2E-06	No
	35500	5.0E-04	5.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.1E-06	No
	50000+	2.0E-04	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.6E-06	No
	50000++	1.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.2E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
3000	1.0E-02		4.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	5.8E-01	No	No
4000	5.0E-03		2.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.9E-01	No	No
7000	2.0E-03		8.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	1.2E-01	No	No
10000	1.0E-03		4.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	5.8E-02	No	No
16000	5.0E-04		2.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.9E-02	No	No
30000	2.0E-04		8.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	1.2E-02	No	No
50000	1.0E-04		4.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	5.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
7500		7.5E-06	4.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	3.0E-03	No	No
10000		3.8E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.5E-03	No	No
18000		1.5E-06	8.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	5.9E-04	No	No
30000		7.5E-07	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.0E-04	No	No
50000		3.8E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-04	No	No
50000+		1.5E-07	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	5.9E-05	No	No
50000++		7.5E-08	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
7500	1.0E-02	3.2E-02	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.2E-05	No	No
10000	5.0E-03	3.2E-02	5.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.1E-05	No	No
18000	2.0E-03	3.2E-02	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.6E-05	No	No
30000	1.0E-03	3.2E-02	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.2E-06	No	No
50000	5.0E-04	3.2E-02	5.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.1E-06	No	No
50000+	2.0E-04	3.2E-02	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.6E-06	No	No
50000++	1.0E-04	3.2E-02	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow																			
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Inhalation	4000	1.0E-02	2.0E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-03	2.9E-01	No	No					
	4000	5.0E-03	9.9E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	1.4E-01	No	No					
	4000	2.0E-03	4.0E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	5.8E-02	No	No					
	5000	1.0E-03	2.0E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	2.9E-02	No	No					
	5000	5.0E-04	9.9E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	1.4E-02	No	No					
	7000	2.0E-04	4.0E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.8E-05	5.8E-03	No	No					
	9000	1.0E-04	2.0E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	2.9E-03	No	No					
	*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																		
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																			
Ingestion	4000	7.5E-06	2.0E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.5E-03	No	No					
	5000	3.8E-06	1.0E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-08	7.4E-04	No	No					
	6000	1.5E-06	4.1E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-08	3.0E-04	No	No					
	7500	7.5E-07	2.0E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	8.8E-07	1.5E-04	No	No					
	9500	3.8E-07	1.0E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-07	7.4E-05	No	No					
	14500	1.5E-07	4.1E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-07	3.0E-05	No	No					
	20000	7.5E-08	2.0E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.5E-05	No	No					
	*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Baramachi 1958																		
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																			
Dermal Absorption	4000	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	4.1E-05	No	No					
	5000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	2.1E-05	No	No					
	6000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	8.2E-06	No	No					
	7500	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	4.1E-06	No	No					
	9500	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	2.1E-06	No	No					
	14500	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	8.2E-07	No	No					
	20000	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	4.1E-07	No	No					
	*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																		
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	2.0E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05
3000	5.0E-03	9.9E-06	60	0.1	16	180	3.75	6.3E-04	1.3E-05
3000	2.0E-03	4.0E-06	60	0.1	16	180	3.75	6.3E-04	5.3E-06
4500	1.0E-03	2.0E-06	60	0.1	16	180	3.75	6.3E-04	2.7E-06
6500	5.0E-04	9.9E-07	60	0.1	16	180	3.75	6.3E-04	1.3E-06
9500	2.0E-04	4.0E-07	60	0.1	16	180	3.75	6.3E-04	5.3E-07
14000	1.0E-04	2.0E-07	60	0.1	16	180	3.75	6.3E-04	2.7E-07
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
3000	7.5E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	6.9E-06
4000	3.8E-06	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	3.4E-06
5000	1.5E-06	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-06
8500	7.5E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	6.9E-07
12000	3.8E-07	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	3.4E-07
24000	1.5E-07	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-07
40000	7.5E-08	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	6.9E-08
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
3000	1.0E-02	5.6E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
4000	5.0E-03	2.8E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
5000	2.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.6E-02
8500	1.0E-03	5.6E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
12000	5.0E-04	2.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
24000	2.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.6E-03
40000	1.0E-04	5.6E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	2.0E-05	60	0.1	16	16	160	3.75	6.9E-05	2.7E-03	2.9E-01	No	No
3000	5.0E-03	9.9E-06	60	0.1	16	16	160	3.75	6.9E-05	1.3E-03	1.4E-01	No	No
4500	2.0E-03	4.0E-06	60	0.1	16	16	160	3.75	6.9E-05	5.3E-04	5.8E-02	No	No
6000	1.0E-03	2.0E-06	60	0.1	16	16	160	3.75	6.9E-05	2.7E-04	2.9E-02	No	No
8500	5.0E-04	9.9E-07	60	0.1	16	16	160	3.75	6.9E-05	1.3E-04	1.4E-02	No	No
18500	2.0E-04	4.0E-07	60	0.1	16	16	160	3.75	6.9E-05	5.3E-05	5.8E-03	No	No
26500	1.0E-04	2.0E-07	60	0.1	16	16	160	3.75	6.9E-05	2.7E-05	2.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	7.5E-08	2.0E-05	17.6	22	16	16	1600	1.10	1.4E-02	6.8E-06	1.5E-03	No	No
8500	3.8E-08	1.0E-05	17.6	22	16	16	1600	1.10	1.4E-02	3.4E-06	7.4E-04	No	No
14500	1.5E-08	4.1E-06	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-06	3.0E-04	No	No
22000	7.5E-07	2.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	6.8E-07	1.5E-04	No	No
35500	3.8E-07	1.0E-06	17.6	22	16	16	1600	1.10	1.4E-02	3.4E-07	7.4E-05	No	No
50000+	1.5E-07	4.1E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-07	3.0E-05	No	No
50000++	7.5E-08	2.0E-07	17.6	22	16	16	1600	1.10	1.4E-02	6.8E-08	1.5E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1956													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	5.6E-05	2	216	16	16	160	0.13	1.4E+00	8.0E-02	4.1E-05	No	No
8500	5.0E-03	2.8E-05	2	216	16	16	160	0.13	1.4E+00	4.0E-02	2.1E-05	No	No
14500	2.0E-03	1.1E-05	2	216	16	16	160	0.13	1.4E+00	1.6E-02	8.2E-06	No	No
22000	1.0E-03	5.6E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-03	4.1E-06	No	No
35500	5.0E-04	2.8E-06	2	216	16	16	160	0.13	1.4E+00	4.0E-03	2.1E-06	No	No
50000+	2.0E-04	1.1E-06	2	216	16	16	160	0.13	1.4E+00	1.6E-03	8.2E-07	No	No
50000++	1.0E-04	5.6E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-04	4.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	2.0E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05
4000	5.0E-03	9.9E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05
7000	2.0E-03	4.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05
10000	1.0E-03	2.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05
16000	5.0E-04	9.9E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05
30000	2.0E-04	4.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05
50000	1.0E-04	2.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
7500	7.5E-08	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	6.8E-06
10000	3.8E-08	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	3.4E-06
16000	1.5E-08	4.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-06
30000	7.5E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	6.8E-07
50000	3.8E-07	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	3.4E-07
50000+	1.5E-07	4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-07
50000++	7.5E-08	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-08
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
7500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	8.0E-02
10000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	4.0E-02
16000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	2.0E-02
30000	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.0E-02
50000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	5.0E-03
50000+	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	2.5E-03
50000++	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.2E-03
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	2.5E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	3.8E-01	No	No
5000	5.0E-03	1.2E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.8E-01	No	No
6000	2.0E-03	5.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	7.2E-02	No	No
7500	1.0E-03	2.5E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	3.6E-02	No	No
9500	5.0E-04	1.2E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.8E-02	No	No
14500	2.0E-04	5.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	7.2E-03	No	No
20000	1.0E-04	2.5E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	3.6E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	7.5E-06	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.9E-03	No	No
5000	3.8E-06	1.3E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-08	9.3E-04	No	No
6000	1.5E-06	5.1E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-08	3.7E-04	No	No
7500	7.5E-07	2.5E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-07	1.9E-04	No	No
9500	3.8E-07	1.3E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-07	9.3E-05	No	No
14500	1.5E-07	5.1E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-07	3.7E-05	No	No
20000	7.5E-08	2.5E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.9E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.1E-05	No	No
5000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.6E-05	No	No
6000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.0E-05	No	No
7500	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.1E-06	No	No
9500	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.6E-06	No	No
14500	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.0E-06	No	No
20000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1960													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Puddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	2.5E-05	60	0.1	18	180	3.75	6.3E-04	6.9E-05
4000	5.0E-03	1.2E-05	60	0.1	18	180	3.75	6.3E-04	6.9E-05
5000	2.0E-03	5.0E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05
6500	1.0E-03	2.5E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05
9500	5.0E-04	1.2E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05
14000	2.0E-04	5.0E-07	60	0.1	18	180	3.75	6.3E-04	6.9E-05
	1.0E-04	2.5E-07	60	0.1	18	180	3.75	6.3E-04	6.9E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
3000	7.5E-06	2.5E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
4000	3.8E-06	1.3E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
5000	1.5E-06	5.1E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
8500	7.5E-07	2.5E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
12000	3.8E-07	1.3E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
24000	1.5E-07	5.1E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
40000	7.5E-08	2.5E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
3000	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
4000	5.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
5000	2.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
8500	1.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
12000	5.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
24000	2.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
40000	1.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Northern bobwhite risk, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05
3000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05
4500	2.0E-03	5.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
6000	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
9500	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05
16500	2.0E-04	5.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05
26500	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
8500	7.5E-06	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
8500	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
14500	1.5E-06	5.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
22000	7.5E-07	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
35500	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
50000+	1.5E-07	5.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
50000++	7.5E-08	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1969									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
6500	1.0E-02	6.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00
8500	5.0E-03	3.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00
14500	2.0E-03	1.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00
22000	1.0E-03	6.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
35500	5.0E-04	3.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
50000+	2.0E-04	1.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00
50000++	1.0E-04	6.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1969									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	3.9E-01	No	No
4000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.9E-01	No	No
7000	2.0E-03	5.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	7.2E-02	No	No
10000	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	3.9E-02	No	No
16000	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.9E-02	No	No
30000	2.0E-04	5.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	7.2E-03	No	No
50000	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	3.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-08	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.0E-03	No	No
10000	3.8E-08	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	9.3E-04	No	No
18000	1.5E-08	5.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.7E-04	No	No
30000	7.5E-07	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.0E-04	No	No
50000	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.3E-05	No	No
50000+	1.5E-07	5.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.7E-05	No	No
50000++	7.5E-08	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.0E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	8.0E-02	5.1E-05	No	No
10000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	4.0E-02	2.6E-05	No	No
18000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	1.9E-02	1.0E-05	No	No
30000	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	8.0E-03	5.1E-06	No	No
50000	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	4.0E-03	2.6E-06	No	No
50000+	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	1.9E-03	1.0E-06	No	No
50000++	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E-00	1.4E-00	8.0E-04	5.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	3.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	4.3E-01	No	No
	4000	5.0E-03	1.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.2E-01	No	No
	4000	2.0E-03	6.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	8.7E-02	No	No
	5000	1.0E-03	3.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	4.3E-02	No	No
	5000	5.0E-04	1.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.2E-02	No	No
	7000	2.0E-04	6.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	8.7E-03	No	No
	9000	1.0E-04	3.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	4.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	7.5E-06	3.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	2.2E-03	No	No
	5000	3.9E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.1E-03	No	No
	6000	1.5E-06	6.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	4.4E-04	No	No
	7500	7.5E-07	3.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	2.2E-04	No	No
	9500	3.9E-07	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.1E-04	No	No
	14500	1.5E-07	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	4.4E-05	No	No
	20000	7.5E-08	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	2.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	6.2E-05	No	No
	5000	5.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.1E-05	No	No
	6000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-05	No	No
	7500	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	6.2E-06	No	No
	9500	5.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.1E-06	No	No
	14500	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-06	No	No
	20000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	6.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.0E-05	80	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-03	4.3E-01	No	No
3000	5.0E-03	1.5E-05	80	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	2.2E-01	No	No
3000	2.0E-03	8.0E-06	80	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	8.7E-02	No	No
4500	1.0E-03	3.0E-06	80	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	4.3E-02	No	No
6500	5.0E-04	1.5E-06	80	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	2.2E-02	No	No
8500	2.0E-04	8.0E-07	80	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-05	8.7E-03	No	No
14000	1.0E-04	3.0E-07	80	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	4.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-06	3.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-06	2.2E-03	No	No
4000	3.8E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.1E-03	No	No
5000	1.5E-06	8.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	4.4E-04	No	No
8500	7.5E-07	3.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.9E-07	2.2E-04	No	No
12000	3.8E-07	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.1E-04	No	No
24000	1.5E-07	8.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	4.4E-05	No	No
40000	7.5E-08	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	2.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	6.2E-05	No	No
4000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	3.1E-05	No	No
5000	2.0E-03	1.7E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	1.9E-02	1.2E-05	No	No
8500	1.0E-03	8.3E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	6.2E-06	No	No
12000	5.0E-04	4.2E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	3.1E-06	No	No
24000	2.0E-04	1.7E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	1.9E-03	1.2E-06	No	No
40000	1.0E-04	8.3E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	6.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McGinn Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	3.0E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	4.3E-01	No
	3000	5.0E-03	1.5E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.2E-01	No
	4500	2.0E-03	6.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	8.7E-02	No
	6000	1.0E-03	3.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	4.3E-02	No
	9500	5.0E-04	1.5E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.2E-02	No
	16500	2.0E-04	6.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	8.7E-03	No
	28500	1.0E-04	3.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	4.3E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	8500	7.5E-06	3.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.6E-06	2.2E-03	No
	8500	3.8E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.1E-03	No
	14500	1.5E-06	6.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	4.4E-04	No
	22000	7.5E-07	3.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.6E-07	2.2E-04	No
	35500	3.8E-07	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.1E-04	No
	50000+	1.5E-07	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	4.4E-05	No
	50000++	7.5E-08	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.6E-08	2.2E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/m ² -day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	8500	1.0E-02	8.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	6.2E-05	No
	8500	5.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.1E-05	No
	14500	2.0E-03	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-05	No
	22000	1.0E-03	8.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	6.2E-06	No
	35500	5.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.1E-06	No
	50000+	2.0E-04	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-06	No
	50000++	1.0E-04	8.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	6.2E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McGann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	4.3E-01	No	No
4000	5.0E-03	1.5E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	2.2E-01	No	No
7000	2.0E-03	6.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	8.7E-02	No	No
10000	1.0E-03	3.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	4.3E-02	No	No
18000	5.0E-04	1.5E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	2.2E-02	No	No
30000	2.0E-04	6.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	8.7E-03	No	No
50000	1.0E-04	3.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	4.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	3.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	2.2E-03	No	No
10000	3.8E-06	1.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.1E-03	No	No
18000	1.5E-06	6.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	4.4E-04	No	No
30000	7.5E-07	3.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	2.2E-04	No	No
50000	3.8E-07	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.1E-04	No	No
50000+	1.5E-07	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	4.4E-05	No	No
50000++	7.5E-08	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	2.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	8.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	6.2E-05	No	No
10000	5.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.1E-05	No	No
18000	2.0E-03	1.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.2E-05	No	No
30000	1.0E-03	8.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	6.2E-06	No	No
50000	5.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.1E-06	No	No
50000+	2.0E-04	1.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.2E-06	No	No
50000++	1.0E-04	8.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	6.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Environmentally Preferred Training Method

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	8.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.3E-02	No	No
	4000	5.0E-03	4.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	6.3E-03	No	No
	5000	2.0E-03	1.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	2.5E-03	No	No
	5000	1.0E-03	8.6E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.3E-03	No	No
	6000	5.0E-04	4.3E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	6.3E-04	No	No
	8000	2.0E-04	1.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	2.5E-04	No	No
	12000	1.0E-04	8.6E-09	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.3E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	7.5E-06	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.1E-04	No	No
	5000	3.8E-06	7.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	5.4E-05	No	No
	6000	1.9E-06	2.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.1E-05	No	No
	7000	7.5E-07	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.1E-05	No	No
	9500	3.8E-07	7.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	5.4E-06	No	No
	14000	1.9E-07	2.9E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.1E-06	No	No
	20000	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.1E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.0E-06	No	No
	5000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-06	No	No
	6000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.0E-07	No	No
	7000	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.0E-07	No	No
	9500	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-07	No	No
	14000	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.0E-08	No	No
	20000	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	8.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.3E-02	No	No
	3500	5.0E-03	4.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	6.3E-03	No	No
	4000	2.0E-03	1.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	2.5E-03	No	No
	5500	1.0E-03	8.6E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.3E-03	No	No
	7500	5.0E-04	4.3E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	6.3E-04	No	No
	12000	2.0E-04	1.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	2.5E-04	No	No
	18500	1.0E-04	8.6E-09	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.3E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	3500	7.5E-06	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.1E-04	No	No
	4000	3.8E-06	7.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	5.4E-05	No	No
	5500	1.5E-06	2.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.1E-05	No	No
	8000	7.5E-07	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.1E-05	No	No
	12000	3.8E-07	7.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	5.4E-06	No	No
	24000	1.5E-07	2.9E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.1E-06	No	No
	40000	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.1E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramecheri 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	3500	1.0E-02	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.0E-06	No	No
	4000	5.0E-03	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-06	No	No
	5500	2.0E-03	8.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.0E-07	No	No
	8000	1.0E-03	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.0E-07	No	No
	12000	5.0E-04	2.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-07	No	No
	24000	2.0E-04	8.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.0E-08	No	No
	40000	1.0E-04	4.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	8.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.3E-02	No	No
	4500	5.0E-03	4.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	6.3E-03	No	No
	6500	2.0E-03	1.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	2.5E-03	No	No
	8500	1.0E-03	8.6E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.3E-03	No	No
	12500	5.0E-04	4.3E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	6.3E-04	No	No
	22500	2.0E-04	1.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	2.5E-04	No	No
	35500	1.0E-04	8.6E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.3E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	7.5E-06	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-06	1.1E-04	No	No
	8500	3.8E-06	7.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	5.4E-05	No	No
	14000	1.5E-06	2.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.1E-05	No	No
	22000	7.5E-07	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-07	1.1E-05	No	No
	35500	3.8E-07	7.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	5.4E-06	No	No
	50000+	1.5E-07	2.9E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.1E-06	No	No
	50000++	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	1.1E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.0E-06	No	No
	8500	5.0E-03	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-06	No	No
	14000	2.0E-03	8.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.0E-07	No	No
	22000	1.0E-03	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.0E-07	No	No
	35500	5.0E-04	2.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-07	No	No
	50000+	2.0E-04	8.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.0E-08	No	No
	50000++	1.0E-04	4.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, EPTM

Static Smoke													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	8.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.3E-02	No	No
5000	5.0E-03	4.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	6.3E-03	No	No
9000	2.0E-03	1.7E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	2.5E-03	No	No
14000	1.0E-03	8.6E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.3E-03	No	No
24000	5.0E-04	4.3E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	6.3E-04	No	No
50000	2.0E-04	1.7E-08	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	2.5E-04	No	No
50000++	1.0E-04	8.6E-09	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.3E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	1.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.1E-04	No	No
10000	3.8E-06	7.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	5.4E-05	No	No
18000	1.5E-06	2.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.1E-05	No	No
30000	7.5E-07	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.1E-05	No	No
50000	3.8E-07	7.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	5.4E-06	No	No
50000+	1.5E-07	2.9E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.1E-06	No	No
50000++	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.1E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brameshan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	4.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.0E-06	No	No
10000	5.0E-03	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-06	No	No
18000	2.0E-03	8.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.0E-07	No	No
30000	1.0E-03	4.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.0E-07	No	No
50000	5.0E-04	2.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-07	No	No
50000+	2.0E-04	8.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.0E-08	No	No
50000++	1.0E-04	4.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
	1.0E-02		2.6E-05		60		0.1		16		160		
Inhalation	4000	1.0E-02	2.6E-05	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	4000	5.0E-03	1.3E-05	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	4000	2.0E-03	5.1E-06	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	5000	1.0E-03	2.6E-06	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	5000	5.0E-04	1.3E-06	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	7000	2.0E-04	5.1E-07	60	60	0.1	0.1	0.1	16	160	160	3.75	No
	9000	1.0E-04	2.6E-07	60	60	0.1	0.1	0.1	16	160	160	3.75	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
	7.5E-06		2.6E-05		17.6		22		16		1600		
Ingestion	4000	7.5E-06	2.6E-05	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	5000	3.8E-06	1.3E-05	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	6000	1.5E-06	5.3E-06	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	7500	7.5E-07	2.6E-06	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	9500	3.8E-07	1.3E-06	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	14500	1.5E-07	5.3E-07	17.6	17.6	22	22	22	16	1600	1600	1.10	No
	20000	7.5E-08	2.6E-07	17.6	17.6	22	22	22	16	1600	1600	1.10	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
	1.0E-02		7.2E-05		2 <td colspan="2">216</td> <td colspan="2">16</td> <td colspan="2">160</td>		216		16		160		
Dermal Absorption	4000	1.0E-02	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	5000	5.0E-03	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	6000	2.0E-03	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	7500	1.0E-03	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	9500	5.0E-04	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	14500	2.0E-04	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
	20000	1.0E-04	3.2E-02	2	2	216	216	216	16	160	160	0.13	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow									
Distance (m)	Daily Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/m ³)							
Inhalation									
3000	1.0E-02	2.6E-05	60	0.1		16	160	3.75	6.3E-04
3000	5.0E-03	1.3E-05	60	0.1		16	160	3.75	6.3E-04
3000	2.0E-03	5.1E-06	60	0.1		16	160	3.75	6.3E-04
4500	1.0E-03	2.6E-06	60	0.1		16	160	3.75	6.3E-04
6500	5.0E-04	1.3E-06	60	0.1		16	160	3.75	6.3E-04
8500	2.0E-04	5.1E-07	60	0.1		16	160	3.75	6.3E-04
14000	1.0E-04	2.6E-07	60	0.1		16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg)							
Ingestion									
3000	7.5E-08	2.6E-05	17.6	22		16	1600	1.10	1.4E-02
4000	3.8E-08	1.3E-05	17.6	22		16	1600	1.10	1.4E-02
5000	1.5E-08	5.3E-06	17.6	22		16	1600	1.10	1.4E-02
8500	7.5E-07	2.6E-06	17.6	22		16	1600	1.10	1.4E-02
12000	3.8E-07	1.3E-06	17.6	22		16	1600	1.10	1.4E-02
24000	1.5E-07	5.3E-07	17.6	22		16	1600	1.10	1.4E-02
40000	7.5E-08	2.6E-07	17.6	22		16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
3000	1.0E-02	3.2E-02	7.2E-05	2	216	16	160	0.13	1.4E+00
4000	5.0E-03	3.2E-02	3.6E-05	2	216	16	160	0.13	1.4E+00
5000	2.0E-03	3.2E-02	1.4E-05	2	216	16	160	0.13	1.4E+00
8500	1.0E-03	3.2E-02	7.2E-06	2	216	16	160	0.13	1.4E+00
12000	5.0E-04	3.2E-02	3.6E-06	2	216	16	160	0.13	1.4E+00
24000	2.0E-04	3.2E-02	1.4E-06	2	216	16	160	0.13	1.4E+00
40000	1.0E-04	3.2E-02	7.2E-07	2	216	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	2.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	3.7E-01	No	No
	3000	5.0E-03	1.3E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.9E-01	No	No
	4500	2.0E-03	5.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	7.5E-02	No	No
	6000	1.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	3.7E-02	No	No
	9500	5.0E-04	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.9E-02	No	No
	16500	2.0E-04	5.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	7.5E-03	No	No
	26500	1.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	3.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	7.5E-06	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.9E-03	No	No
	8500	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	9.6E-04	No	No
	14500	1.5E-06	5.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.8E-04	No	No
	22000	7.5E-07	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.9E-04	No	No
	35500	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.6E-05	No	No
	50000+	1.5E-07	5.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.8E-05	No	No
	50000++	7.5E-08	2.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.9E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	7.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.3E-05	No	No
	8500	5.0E-03	3.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No	No
	14500	2.0E-03	1.4E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	22000	1.0E-03	7.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.3E-06	No	No
	35500	5.0E-04	3.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No	No
	50000+	2.0E-04	1.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
	50000++	1.0E-04	7.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.6E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	3.7E-01	No	No
4000	5.0E-03	1.3E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.9E-01	No	No
7000	2.0E-03	5.1E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	7.5E-02	No	No
10000	1.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	3.7E-02	No	No
16000	5.0E-04	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.9E-02	No	No
30000	2.0E-04	5.1E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	7.5E-03	No	No
50000	1.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	3.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion													
7500	7.9E-06	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.9E-03	No	No
10000	3.8E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	9.8E-04	No	No
18000	1.5E-06	5.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.8E-04	No	No
30000	7.5E-07	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.9E-04	No	No
50000	3.8E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	9.8E-05	No	No
50000++	1.5E-07	5.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.8E-05	No	No
50000++	7.5E-08	2.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.9E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.3E-05	No	No
10000	5.0E-03	1.6E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No	No
18000	2.0E-03	6.4E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
30000	1.0E-03	3.2E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.3E-06	No	No
50000	5.0E-04	1.6E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No	No
50000+	2.0E-04	6.4E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
50000++	1.0E-04	3.2E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	1.3E-05	60	0.1	16	16	3.75	6.3E-04	6.9E-05
4000	5.0E-03	6.4E-06	60	0.1	16	16	3.75	6.3E-04	1.3E-03
4000	2.0E-03	2.6E-06	60	0.1	16	16	3.75	6.3E-04	9.3E-02
5000	1.0E-03	1.3E-06	60	0.1	16	16	3.75	6.3E-04	3.7E-02
5000	5.0E-04	6.4E-07	60	0.1	16	16	3.75	6.3E-04	1.9E-02
7000	2.0E-04	2.6E-07	60	0.1	16	16	3.75	6.3E-04	9.3E-03
9000	1.0E-04	1.3E-07	60	0.1	16	16	3.75	6.3E-04	3.7E-03
									1.9E-03
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	7.5E-08	1.3E-05	17.6	22	16	16	1.10	1.4E-02	1.4E-02
5000	3.8E-08	6.4E-06	17.6	22	16	16	1.10	1.4E-02	6.8E-06
6000	1.5E-08	2.6E-06	17.6	22	16	16	1.10	1.4E-02	3.4E-06
7500	7.5E-07	1.3E-06	17.6	22	16	16	1.10	1.4E-02	4.8E-04
9500	3.8E-07	6.4E-07	17.6	22	16	16	1.10	1.4E-02	1.4E-07
14500	1.5E-07	2.6E-07	17.6	22	16	16	1.10	1.4E-02	9.8E-05
20000	7.5E-08	1.3E-07	17.6	22	16	16	1.10	1.4E-02	6.8E-08
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	3.2E-02	3.8E-05	2	216	16	16	0.13	1.4E+00
5000	5.0E-03	3.2E-02	1.8E-05	2	216	16	16	0.13	4.0E-02
6000	2.0E-03	3.2E-02	7.2E-06	2	216	16	16	0.13	1.8E-02
7500	1.0E-03	3.2E-02	3.8E-06	2	216	16	16	0.13	8.0E-03
9500	5.0E-04	3.2E-02	1.8E-06	2	216	16	16	0.13	4.0E-03
14500	2.0E-04	3.2E-02	7.2E-07	2	216	16	16	0.13	1.8E-03
20000	1.0E-04	3.2E-02	3.8E-07	2	216	16	16	0.13	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow																			
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Inhalation																			
3000	1.0E-02	1.3E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-03	1.9E-01	No	No						
3000	5.0E-03	6.4E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	9.3E-02	No	No						
3000	2.0E-03	2.6E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	3.7E-02	No	No						
4500	1.0E-03	1.3E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	1.9E-02	No	No						
6500	5.0E-04	6.4E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	9.3E-03	No	No						
9500	2.0E-04	2.6E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-05	3.7E-03	No	No						
14000	1.0E-04	1.3E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	1.9E-03	No	No						
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																			
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																			
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Ingestion																			
3000	7.5E-06	1.3E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-06	9.8E-04	No	No						
4000	3.9E-06	6.6E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-06	4.8E-04	No	No						
5000	1.5E-06	2.6E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-06	1.9E-04	No	No						
8500	7.5E-07	1.3E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-07	9.8E-05	No	No						
12000	3.9E-07	6.6E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-07	4.8E-05	No	No						
24000	1.5E-07	2.6E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-05	No	No						
40000	7.5E-08	1.3E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.8E-08	9.8E-06	No	No						
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959																			
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																			
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Dermal Absorption																			
3000	1.0E-02	3.9E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-05	No	No						
4000	5.0E-03	1.9E-05	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.3E-05	No	No						
5000	2.0E-03	7.2E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	5.3E-06	No	No						
8500	1.0E-03	3.6E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-06	No	No						
12000	5.0E-04	1.8E-06	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.3E-06	No	No						
24000	2.0E-04	7.2E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	5.3E-07	No	No						
40000	1.0E-04	3.6E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.7E-07	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Ballard Hollow or Wolf Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.9E-01	No
	3000	5.0E-03	6.4E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	9.3E-02	No
	4500	2.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	3.7E-02	No
	6000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.9E-02	No
	8500	5.0E-04	6.4E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	9.3E-03	No
	16500	2.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	3.7E-03	No
	28500	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.9E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	7.5E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	9.6E-04	No
	8500	3.8E-06	6.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.6E-04	No
	14500	1.5E-06	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.9E-04	No
	22000	7.5E-07	1.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	9.6E-05	No
	35500	3.8E-07	6.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.6E-05	No
	50000+	1.5E-07	2.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-05	No
	50000++	7.5E-08	1.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	9.6E-06	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1956													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	3.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-05	No
	8500	5.0E-03	1.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.3E-05	No
	14500	2.0E-03	7.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	5.3E-06	No
	22000	1.0E-03	3.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-06	No
	35500	5.0E-04	1.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.3E-06	No
	50000+	2.0E-04	7.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	5.3E-07	No
	50000++	1.0E-04	3.6E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.7E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)													
	3000	1.0E-02	1.3E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	1.9E-01	No	No
	4000	5.0E-03	6.4E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	9.3E-02	No	No
	7000	2.0E-03	2.6E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	3.7E-02	No	No
	10000	1.0E-03	1.3E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	1.9E-02	No	No
	16000	5.0E-04	6.4E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	9.3E-03	No	No
Ingestion	Distance (m)													
	3000	2.0E-04	2.6E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	3.7E-03	No	No
	50000	1.0E-04	1.3E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	1.9E-03	No	No
	7500	7.5E-06	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	9.8E-04	No	No
	10000	3.8E-06	6.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-08	4.8E-04	No	No
	18000	1.9E-06	2.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-08	1.9E-04	No	No
Dermal Absorption	Distance (m)													
	3000	3.8E-07	6.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	9.8E-05	No	No
	50000	1.9E-07	2.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.8E-05	No	No
	7500	7.5E-08	1.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-05	No	No
	10000	3.8E-08	6.6E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	9.8E-06	No	No
	18000	1.9E-08	2.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-08	4.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption		Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	Distance (m)													
	7500	1.0E-02	3.2E-02	3.8E-05	2	216	16	180	0.13	1.4E+00	8.0E-02	2.7E-05	No	No
	10000	5.0E-03	3.2E-02	1.8E-05	2	216	16	180	0.13	1.4E+00	4.0E-02	1.3E-05	No	No
	18000	2.0E-03	3.2E-02	7.2E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	5.3E-06	No	No
	30000	1.0E-03	3.2E-02	3.6E-06	2	216	16	180	0.13	1.4E+00	8.0E-03	2.7E-06	No	No
	50000	5.0E-04	3.2E-02	1.8E-06	2	216	16	180	0.13	1.4E+00	4.0E-03	1.3E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980	Distance (m)													
	50000	2.0E-04	3.2E-02	7.2E-07	2	216	16	180	0.13	1.4E+00	1.6E-03	5.3E-07	No	No
	50000++	1.0E-04	3.2E-02	3.6E-07	2	216	16	180	0.13	1.4E+00	8.0E-04	2.7E-07	No	No
	7500	1.0E-02	3.2E-02	3.8E-05	2	216	16	180	0.13	1.4E+00	8.0E-02	2.7E-05	No	No
	10000	5.0E-03	3.2E-02	1.8E-05	2	216	16	180	0.13	1.4E+00	4.0E-02	1.3E-05	No	No
	18000	2.0E-03	3.2E-02	7.2E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	5.3E-06	No	No
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)												
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation												
4000	1.0E-02	1.8E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No
4000	5.0E-03	8.0E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.2E-01	No
4000	2.0E-03	3.2E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	4.7E-02	No
5000	1.0E-03	1.6E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No
5000	5.0E-04	8.0E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.2E-02	No
7000	2.0E-04	3.2E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	4.7E-03	No
9000	1.0E-04	1.6E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987												
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992												
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion												
4000	7.5E-06	1.6E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.9E-08	1.2E-03	No
5000	3.8E-06	8.2E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-08	6.0E-04	No
6000	1.5E-06	3.3E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-08	2.4E-04	No
7500	7.5E-07	1.6E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.9E-07	1.2E-04	No
9500	3.8E-07	8.2E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.4E-07	6.0E-05	No
14500	1.5E-07	3.3E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.4E-07	2.4E-05	No
20000	7.5E-08	1.6E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	6.9E-08	1.2E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958												
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989												
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption												
4000	1.0E-02	4.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.3E-05	No
5000	5.0E-03	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.7E-05	No
6000	2.0E-03	8.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	6.8E-06	No
7500	1.0E-03	4.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.3E-06	No
9500	5.0E-04	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.7E-06	No
14500	2.0E-04	8.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	6.8E-07	No
20000	1.0E-04	4.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.3E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980												
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989												

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.0E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No	No
3000	5.0E-03	8.0E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.2E-01	No	No
3000	2.0E-03	3.2E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	4.7E-02	No	No
4500	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No	No
8500	5.0E-04	8.0E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.2E-02	No	No
9500	2.0E-04	3.2E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	4.7E-03	No	No
14000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-06	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.2E-03	No	No
4000	3.8E-06	8.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	6.0E-04	No	No
5000	1.5E-06	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.4E-04	No	No
8500	7.5E-07	1.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.2E-04	No	No
12000	3.8E-07	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	6.0E-05	No	No
24000	1.5E-07	3.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.4E-05	No	No
40000	7.5E-08	1.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	4.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.3E-05	No	No
4000	5.0E-03	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.7E-05	No	No
5000	2.0E-03	8.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.9E-02	6.6E-06	No	No
8500	1.0E-03	4.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.3E-06	No	No
12000	5.0E-04	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.7E-06	No	No
24000	2.0E-04	8.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.9E-03	6.6E-07	No	No
40000	1.0E-04	4.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	1.6E-05	60	0.1	16		160	3.75	6.3E-04
3000	5.0E-03	8.0E-06	60	0.1	16		160	3.75	6.3E-04
4500	2.0E-03	3.2E-06	60	0.1	16		160	3.75	6.3E-04
6000	1.0E-03	1.6E-06	60	0.1	16		160	3.75	6.3E-04
9500	5.0E-04	8.0E-07	60	0.1	16		160	3.75	6.3E-04
16500	2.0E-04	3.2E-07	60	0.1	16		160	3.75	6.3E-04
26500	1.0E-04	1.6E-07	60	0.1	16		160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
6500	7.5E-06	1.6E-05	17.6	22	16		1600	1.10	1.4E-02
8500	3.8E-06	8.2E-06	17.6	22	16		1600	1.10	1.4E-02
14500	1.5E-06	3.3E-06	17.6	22	16		1600	1.10	1.4E-02
22000	7.5E-07	1.6E-06	17.6	22	16		1600	1.10	1.4E-02
35500	3.8E-07	8.2E-07	17.6	22	16		1600	1.10	1.4E-02
50000+	1.5E-07	3.3E-07	17.6	22	16		1600	1.10	1.4E-02
50000++	7.5E-08	1.6E-07	17.6	22	16		1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
8500	1.0E-02	4.5E-05	2	216	16		160	0.13	1.4E+00
8500	5.0E-03	2.2E-05	2	216	16		160	0.13	1.4E+00
14500	2.0E-03	8.9E-06	2	216	16		160	0.13	1.4E+00
22000	1.0E-03	4.5E-06	2	216	16		160	0.13	1.4E+00
35500	5.0E-04	2.2E-06	2	216	16		160	0.13	1.4E+00
50000+	2.0E-04	8.9E-07	2	216	16		160	0.13	1.4E+00
50000++	1.0E-04	4.5E-07	2	216	16		160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1950									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.8E-05	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-03	2.3E-01	No	No
4000	5.0E-03	8.0E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-03	1.2E-01	No	No
7000	2.0E-03	3.2E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-04	4.7E-02	No	No
10000	1.0E-03	1.6E-06	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-04	2.3E-02	No	No
18000	5.0E-04	8.0E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	1.3E-04	1.2E-02	No	No
30000	2.0E-04	3.2E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	5.3E-05	4.7E-03	No	No
50000	1.0E-04	1.6E-07	60	0.1	16	180	3.75	6.3E-04	6.9E-05	2.7E-05	2.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	1.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.2E-03	No	No
10000	3.8E-06	8.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	6.0E-04	No	No
18000	1.5E-06	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.4E-04	No	No
30000	7.5E-07	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.2E-04	No	No
50000	3.8E-07	8.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	6.0E-05	No	No
50000+	1.5E-07	3.3E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.4E-05	No	No
50000++	7.5E-08	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	4.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.3E-05	No	No
10000	5.0E-03	2.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.7E-05	No	No
18000	2.0E-03	8.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.8E-06	No	No
30000	1.0E-03	4.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.3E-06	No	No
50000	5.0E-04	2.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.7E-06	No	No
50000+	2.0E-04	8.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.8E-07	No	No
50000++	1.0E-04	4.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	4000	1.0E-02	1.9E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.9E-01	No
	4000	5.0E-03	9.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.4E-01	No
	4000	2.0E-03	3.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	5.6E-02	No
	5000	1.0E-03	1.9E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.9E-02	No
	5000	5.0E-04	9.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.4E-02	No
	7000	2.0E-04	3.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	5.6E-03	No
	9000	1.0E-04	1.9E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.9E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	4000	7.5E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.4E-03	No
	5000	3.8E-06	9.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	7.2E-04	No
	6000	1.5E-06	3.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.9E-04	No
	7500	7.5E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.4E-04	No
	9500	3.8E-07	9.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	7.2E-05	No
	14500	1.5E-07	3.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.9E-05	No
	20000	7.5E-08	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.4E-05	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1969													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	4000	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.0E-05	No
	5000	5.0E-03	1.6E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-05	No
	6000	2.0E-03	6.4E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.0E-06	No
	7500	1.0E-03	3.2E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.0E-06	No
	9500	5.0E-04	1.6E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-06	No
	14500	2.0E-04	6.4E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.0E-07	No
	20000	1.0E-04	3.2E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.0E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1969													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.0E-05	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.8E-01	No	No
3000	5.0E-03	9.6E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.4E-01	No	No
3000	2.0E-03	3.8E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	5.6E-02	No	No
4500	1.0E-03	1.9E-06	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.8E-02	No	No
6500	5.0E-04	9.6E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.4E-02	No	No
8500	2.0E-04	3.8E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	5.6E-03	No	No
14000	1.0E-04	1.9E-07	80	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	7.5E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.4E-03	No	No
4000	3.8E-06	9.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	7.2E-04	No	No
5000	1.5E-06	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.9E-04	No	No
8500	7.5E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.4E-04	No	No
12000	3.8E-07	9.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	7.2E-05	No	No
24000	1.5E-07	3.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.9E-05	No	No
40000	7.5E-08	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.4E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	6.0E-02	4.0E-05	No	No
4000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-05	No	No
5000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	8.0E-06	No	No
8500	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	4.0E-06	No	No
12000	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-06	No	No
24000	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	8.0E-07	No	No
40000	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	4.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Northern bobwhite risk EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	1.9E-05	60	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-03	2.8E-01	No	No
3000	5.0E-03	9.6E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05	1.3E-03	1.4E-01	No	No
4500	2.0E-03	3.8E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05	5.3E-04	5.6E-02	No	No
6000	1.0E-03	1.9E-06	60	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-04	2.8E-02	No	No
9500	5.0E-04	9.6E-07	60	0.1	18	180	3.75	6.3E-04	6.9E-05	1.3E-04	1.4E-02	No	No
16500	2.0E-04	3.8E-07	60	0.1	18	180	3.75	6.3E-04	6.9E-05	5.3E-05	5.6E-03	No	No
26500	1.0E-04	1.9E-07	60	0.1	18	180	3.75	6.3E-04	6.9E-05	2.7E-05	2.8E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	7.5E-06	2.0E-05	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.4E-03	No	No
8500	3.8E-06	9.6E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-08	7.2E-04	No	No
14500	1.5E-06	3.8E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-08	2.8E-04	No	No
22000	7.5E-07	2.0E-06	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	1.4E-04	No	No
35500	3.8E-07	9.6E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	7.2E-05	No	No
50000+	1.5E-07	3.8E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	2.8E-05	No	No
50000++	7.5E-08	2.0E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.4E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	5.4E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	4.0E-05	No	No
8500	5.0E-03	2.7E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-05	No	No
14500	2.0E-03	1.1E-05	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	8.0E-06	No	No
22000	1.0E-03	5.4E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	4.0E-06	No	No
35500	5.0E-04	2.7E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-06	No	No
50000+	2.0E-04	1.1E-06	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	8.0E-07	No	No
50000++	1.0E-04	5.4E-07	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	4.0E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category D

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	1.9E-05	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-03	2.8E-01	No	No
	4000	5.0E-03	9.6E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-03	1.4E-01	No	No
	7000	2.0E-03	3.8E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-04	5.6E-02	No	No
	10000	1.0E-03	1.9E-06	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-04	2.8E-02	No	No
	16000	5.0E-04	9.6E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	1.3E-04	1.4E-02	No	No
30000	2.0E-04	3.8E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	5.3E-05	5.6E-03	No	No	
50000	1.0E-04	1.9E-07	60	0.1	16	160	3.75	6.3E-04	6.9E-05	2.7E-05	2.8E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	7.5E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.4E-03	No	No
	10000	3.8E-06	9.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	7.2E-04	No	No
	18000	1.5E-06	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	2.9E-04	No	No
	30000	7.5E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.4E-04	No	No
	50000	3.8E-07	9.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	7.2E-05	No	No
50000+	1.5E-07	3.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	2.9E-05	No	No	
50000++	7.5E-08	2.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.4E-05	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.0E-05	No	No
	10000	5.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-05	No	No
	18000	2.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.0E-06	No	No
	30000	1.0E-03	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.0E-06	No	No
	50000	5.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-06	No	No
50000+	2.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.0E-07	No	No	
50000++	1.0E-04	3.2E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.0E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Appendix VIII
Intake Calculations for American Robin

APPENDIX VIII:

Intake Calculations for American Robin

INTAKE PARAMETERS FOR AMERICAN ROBINS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

Relocate Current Practice

American robin intake, RCP

Pasquill Category B

American robin intake, RCP

American robin intake, RCP

[illegible]

Pasquill Category D

[illegible]

American robin intake, RCP

[illegible]

Pasquill Category B

American robin intake, RCP

Mobile Smoke - Musgrave Hollow									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	4.6E-05
3000	0.005	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	2.3E-05
3000	0.002	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	9.1E-06
4500	0.001	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	4.6E-06
6500	0.0005	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	2.3E-06
9500	0.0002	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	9.1E-07
14000	0.0001	4.1E-02	1.7E-03	4.3E-03	35.2	1.5	0.09	547.5	4.6E-07

[illegible]

Pasquim Category D

American robin intake, RCP

[illegible]

Pasquill Category E

American robin intake, RCP

Mobile Smoke - Bedford Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)												
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		Event IR	Hourly IR	Daily IR	CF (g/g)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)											
		Intake Rate (m ³ /day)																								
Inhalation																										
4000	0.01	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-05											
4000	0.005	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	1.1E-05											
4000	0.002	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	4.6E-06											
5000	0.001	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-06											
5000	0.0005	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	1.1E-06											
7000	0.0002	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	4.6E-07											
9000	0.0001	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.1E-02	1.7E-03	4.3E-03	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-07											
Ingestion																										
Fog Oil Deposition (g/m ³)																										
Daily IR																										
4000	0.01	7.8E-06	6.0E-07	8.0E-06	8.4E-06	6.0E-07	8.4E-06	8.0E-06	8.0E-06	8.0E-06	17.6	1.5	0.09	547.5	3.8E-04											
5000	0.005	3.9E-06	3.0E-07	4.2E-06	4.2E-06	3.0E-07	4.2E-06	4.2E-06	4.2E-06	4.2E-06	17.6	1.5	0.09	547.5	1.8E-04											
6000	0.002	1.6E-06	1.2E-07	1.7E-06	1.7E-06	1.2E-07	1.7E-06	1.7E-06	1.7E-06	1.7E-06	17.6	1.5	0.09	547.5	7.2E-05											
7500	0.001	7.8E-07	6.0E-08	8.4E-07	8.4E-07	6.0E-08	8.4E-07	8.0E-07	8.0E-07	8.0E-07	17.6	1.5	0.09	547.5	3.8E-05											
9500	0.0005	3.9E-07	3.0E-08	4.2E-07	4.2E-07	3.0E-08	4.2E-07	4.2E-07	4.2E-07	4.2E-07	17.6	1.5	0.09	547.5	1.8E-05											
14500	0.0002	1.6E-07	1.2E-08	1.7E-07	1.7E-07	1.2E-08	1.7E-07	1.7E-07	1.7E-07	1.7E-07	17.6	1.5	0.09	547.5	7.2E-06											
20000	0.0001	7.8E-08	6.0E-09	8.4E-08	8.4E-08	6.0E-09	8.4E-08	8.0E-08	8.0E-08	8.0E-08	17.6	1.5	0.09	547.5	3.8E-06											
Dermal Absorption																										
Skin Surface Area (m ²)																										
ABS																										
4000	0.01	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	1.1E-04											
5000	0.005	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	5.3E-05											
6000	0.002	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	2.1E-05											
7500	0.001	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	1.1E-05											
9500	0.0005	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	5.3E-06											
14500	0.0002	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	2.1E-06											
20000	0.0001	0.0198	0.0198	1	0.0198	0.0198	0.0198	1	0.0198	0.0198	17.6	1.5	0.09	547.5	1.1E-06											

Pasquill Category B

[illegible]

[illegible]

American robin intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation	Distance (m)	Fog Oil Concentration (g/m ³)	Daily IR	Hourly IR	Event IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
	3000	0.01	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-05
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	1.1E-05
	7000	0.002	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	4.6E-06
	10000	0.001	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-06
	16000	0.0005	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	1.1E-06
	30000	0.0002	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	4.6E-07
	50000	0.0001	4.1E-02	1.7E-03	4.3E-03	17.6	1.5	0.09	547.5	2.3E-07
Ingestion	Distance (m)	Fog Oil Deposition (g/m ²)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
	7500	0.01	7.8E-06	6.0E-07	8.4E-06	17.6	1.5	0.09	547.5	3.6E-04
	10000	0.005	3.9E-06	3.0E-07	4.2E-06	17.6	1.5	0.09	547.5	1.8E-04
	18000	0.002	1.6E-06	1.2E-07	1.7E-06	17.6	1.5	0.09	547.5	7.2E-05
	30000	0.001	7.8E-07	6.0E-08	8.4E-07	17.6	1.5	0.09	547.5	3.6E-05
	50000	0.0005	3.9E-07	3.0E-08	4.2E-07	17.6	1.5	0.09	547.5	1.8E-05
	50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	17.6	1.5	0.09	547.5	7.2E-06
	50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	17.6	1.5	0.09	547.5	3.6E-06
Dermal Absorption	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
	7500	0.01	0.0198	1	17.6	1.5	0.09	547.5	1.1E-04	
	10000	0.005	0.0198	1	17.6	1.5	0.09	547.5	5.3E-05	
	18000	0.002	0.0198	1	17.6	1.5	0.09	547.5	2.1E-05	
	30000	0.001	0.0198	1	17.6	1.5	0.09	547.5	1.1E-05	
	50000	0.0005	0.0198	1	17.6	1.5	0.09	547.5	5.3E-06	
	50000+	0.0002	0.0198	1	17.6	1.5	0.09	547.5	2.1E-06	
	50000++	0.0001	0.0198	1	17.6	1.5	0.09	547.5	1.1E-06	

American robin intake, RCP

[illegible]

Pasquill Category B

[illegible]

[illegible]

[illegible]

[illegible]

Pasquini Category B

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR					
	3000	0.01	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	3.4E-05
	3000	0.005	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	1.7E-05
	3000	0.002	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	6.9E-06
	4500	0.001	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	3.4E-06
	6500	0.0005	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	1.7E-06
	9500	0.0002	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	6.9E-07
	14000	0.0001	4.1E-02	1.7E-03	4.3E-03	26.4	1.5	0.09	547.5	3.4E-07
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion						Daily IR				
	3000	0.01	7.8E-06	6.0E-07	8.4E-06	8.0E+01	26.4	1.5	0.09	547.5
	4000	0.005	3.9E-06	3.0E-07	4.2E-06	8.0E+01	26.4	1.5	0.09	547.5
	5000	0.002	1.6E-06	1.2E-07	1.7E-06	8.0E+01	26.4	1.5	0.09	547.5
	8500	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	26.4	1.5	0.09	547.5
	12000	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	26.4	1.5	0.09	547.5
	24000	0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	26.4	1.5	0.09	547.5
	40000	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	26.4	1.5	0.09	547.5
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	3000	0.01	0.0198		1	26.4	1.5	0.09	547.5	1.6E-04
	4000	0.005	0.0198		1	26.4	1.5	0.09	547.5	7.9E-05
	5000	0.002	0.0198		1	26.4	1.5	0.09	547.5	3.2E-05
	8500	0.001	0.0198		1	26.4	1.5	0.09	547.5	1.6E-05
	12000	0.0005	0.0198		1	26.4	1.5	0.09	547.5	7.9E-06
	24000	0.0002	0.0198		1	26.4	1.5	0.09	547.5	3.2E-06
	40000	0.0001	0.0198		1	26.4	1.5	0.09	547.5	1.6E-06

Pasquill Category C

American robin intake, RCP

[illegible]

Pasquill Category D

[illegible]

Pasquill Category E

Operationally Preferred Training Method.

American robin intake, OPTM

Static Smoke	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	4000	0.01	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-06	
	4000	0.005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-06	
	5000	0.002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-06	
	5000	0.001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-07	
	6000	0.0005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-07	
	8000	0.0002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-07	
	12000	0.0001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-08	
Ingestion	4000	0.01	7.8E-06	6.0E-07	8.0E-01	7.1	1.5	0.09	547.5	1.4E-04	
	5000	0.005	3.9E-06	3.0E-07	8.0E-01	7.1	1.5	0.09	547.5	7.2E-05	
	6000	0.002	1.6E-06	1.2E-07	8.0E-01	7.1	1.5	0.09	547.5	2.9E-05	
	7000	0.001	7.8E-07	6.0E-08	8.0E-01	7.1	1.5	0.09	547.5	1.4E-05	
	9500	0.0005	3.9E-07	3.0E-08	8.0E-01	7.1	1.5	0.09	547.5	7.2E-06	
	14000	0.0002	1.6E-07	1.2E-08	8.0E-01	7.1	1.5	0.09	547.5	2.9E-06	
	20000	0.0001	7.8E-08	6.0E-09	8.0E-01	7.1	1.5	0.09	547.5	1.4E-06	
Dermal Absorption	4000	0.01		0.0198		1	7.1	1.5	0.09	547.5	4.3E-05
	5000	0.005		0.0198		1	7.1	1.5	0.09	547.5	2.1E-05
	6000	0.002		0.0198		1	7.1	1.5	0.09	547.5	8.5E-06
	7000	0.001		0.0198		1	7.1	1.5	0.09	547.5	4.3E-06
	9500	0.0005		0.0198		1	7.1	1.5	0.09	547.5	2.1E-06
	14000	0.0002		0.0198		1	7.1	1.5	0.09	547.5	8.5E-07
	20000	0.0001		0.0198		1	7.1	1.5	0.09	547.5	4.3E-07

American robin intake, OPTM

Static Smoke	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	3500	0.01	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-06	
	3500	0.005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-06	
	4000	0.002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-06	
	5500	0.001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-07	
	7500	0.0005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-07	
	12000	0.0002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-07	
	18500	0.0001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-08	
Ingestion	3500	0.01	7.8E-06	6.0E-07	8.4E-06	8.0E+01	1.5	0.09	547.5	1.4E-04	
	4000	0.005	3.9E-06	3.0E-07	4.2E-06	8.0E+01	1.5	0.09	547.5	7.2E-05	
	5500	0.002	1.6E-06	1.2E-07	1.7E-06	8.0E+01	1.5	0.09	547.5	2.9E-05	
	8000	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	1.5	0.09	547.5	1.4E-05	
	12000	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	1.5	0.09	547.5	7.2E-06	
	24000	0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	1.5	0.09	547.5	2.9E-06	
	40000	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	1.5	0.09	547.5	1.4E-06	
Dermal Absorption	3500	0.01		0.0198		1	7.1	1.5	0.09	547.5	4.3E-05
	4000	0.005		0.0198		1	7.1	1.5	0.09	547.5	2.1E-05
	5500	0.002		0.0198		1	7.1	1.5	0.09	547.5	8.5E-06
	8000	0.001		0.0198		1	7.1	1.5	0.09	547.5	4.3E-06
	12000	0.0005		0.0198		1	7.1	1.5	0.09	547.5	2.1E-06
	24000	0.0002		0.0198		1	7.1	1.5	0.09	547.5	8.5E-07
	40000	0.0001		0.0198		1	7.1	1.5	0.09	547.5	4.3E-07

American robin intake, OPTM

[illegible]

Pasquill Category D

American robin intake, OPTM

Static Smoke	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-06
	5000	0.005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-06
	9000	0.002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-06
	14000	0.001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-07
	24000	0.0005	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	2.8E-07
	50000	0.0002	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	1.1E-07
	50000+	0.0001	4.1E-02	1.7E-03	2.6E-03	7.1	1.5	0.09	547.5	5.5E-08
Ingestion	7500	0.01	7.8E-06	6.0E-07	8.4E-06	8.0E+01	7.1	1.5	0.09	547.5
	10000	0.005	3.9E-06	3.0E-07	4.2E-06	8.0E+01	7.1	1.5	0.09	547.5
	18000	0.002	1.6E-06	1.2E-07	1.7E-06	8.0E+01	7.1	1.5	0.09	547.5
	30000	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	7.1	1.5	0.09	547.5
	50000	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	7.1	1.5	0.09	547.5
	50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	7.1	1.5	0.09	547.5
	50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	7.1	1.5	0.09	547.5
Dermal Absorption	7500	0.01		0.0198		1	7.1	1.5	0.09	547.5
	10000	0.005		0.0198		1	7.1	1.5	0.09	547.5
	18000	0.002		0.0198		1	7.1	1.5	0.09	547.5
	30000	0.001		0.0198		1	7.1	1.5	0.09	547.5
	50000	0.0005		0.0198		1	7.1	1.5	0.09	547.5
	50000+	0.0002		0.0198		1	7.1	1.5	0.09	547.5
	50000++	0.0001		0.0198		1	7.1	1.5	0.09	547.5

[illegible]

[illegible]

[illegible]

American robin intake, OPTM

[illegible]

Pasquill Category B

[illegible]

American robin intake, OPTM

[illegible]

Pasquill Category D

American robin intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Daily Chronic Intake Value (g/kg-day)	
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		Daily IR	Hourly IR	Event IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
Inhalation	3000	0.01	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	1.6E-05				
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	8.2E-06				
	7000	0.002	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	3.3E-06				
	10000	0.001	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	1.6E-06				
	16000	0.0005	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	8.2E-07				
	30000	0.0002	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	3.3E-07				
	50000	0.0001	4.1E-02	1.7E-03	4.3E-03	12.7	1.5	0.09	547.5	547.5	1.6E-07				
Ingestion	7500	0.01	7.8E-08	8.0E-07	8.4E-06	8.0E+01	12.7	1.5	0.09	547.5	2.6E-04				
	10000	0.005	3.9E-08	3.0E-07	4.2E-06	8.0E+01	12.7	1.5	0.09	547.5	1.3E-04				
	18000	0.002	1.6E-08	1.2E-07	1.7E-06	8.0E+01	12.7	1.5	0.09	547.5	5.2E-05				
	30000	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	12.7	1.5	0.09	547.5	2.6E-05				
	50000	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	12.7	1.5	0.09	547.5	1.3E-05				
	50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	12.7	1.5	0.09	547.5	5.2E-06				
	50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	12.7	1.5	0.09	547.5	2.6E-06				
Dermal Absorption	7500	0.01	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	7.8E-05				
	10000	0.005	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	3.8E-05				
	18000	0.002	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	1.5E-05				
	30000	0.001	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	7.8E-06				
	50000	0.0005	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	3.8E-06				
	50000+	0.0002	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	1.5E-06				
	50000++	0.0001	0.0198	0.0198	1	12.7	1.5	0.09	547.5	547.5	7.8E-07				

[illegible]

American robin intake, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ² /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation										
	3000	0.01	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	2.1E-05
	3000	0.005	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	1.0E-05
	3000	0.002	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	4.1E-06
	4500	0.001	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	2.1E-06
	6500	0.0005	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	1.0E-06
	9500	0.0002	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	4.1E-07
	14000	0.0001	4.1E-02	1.7E-03	4.3E-03	15.8	1.5	0.09	547.5	2.1E-07
Ingestion										
	3000	0.01	7.8E-08	6.0E-07	8.4E-08	15.8	1.5	0.09	547.5	3.2E-04
	4000	0.005	3.9E-08	3.0E-07	4.2E-08	15.8	1.5	0.09	547.5	1.6E-04
	5000	0.002	1.6E-08	1.2E-07	1.7E-08	15.8	1.5	0.09	547.5	6.5E-05
	8500	0.001	7.8E-07	6.0E-08	8.4E-07	15.8	1.5	0.09	547.5	3.2E-05
	12000	0.0005	3.9E-07	3.0E-08	4.2E-07	15.8	1.5	0.09	547.5	1.6E-05
	24000	0.0002	1.6E-07	1.2E-08	1.7E-07	15.8	1.5	0.09	547.5	6.5E-06
	40000	0.0001	7.8E-08	6.0E-09	8.4E-08	15.8	1.5	0.09	547.5	3.2E-06
Dermal Absorption										
	3000	0.01		0.0198		1	15.8	1.5	0.09	547.5
	4000	0.005		0.0198		1	15.8	1.5	0.09	547.5
	5000	0.002		0.0198		1	15.8	1.5	0.09	547.5
	8500	0.001		0.0198		1	15.8	1.5	0.09	547.5
	12000	0.0005		0.0198		1	15.8	1.5	0.09	547.5
	24000	0.0002		0.0198		1	15.8	1.5	0.09	547.5
	40000	0.0001		0.0198		1	15.8	1.5	0.09	547.5

Pasquill Category C

American robin intake, OPTM

[illegible]

Pasquill Category D

American robin intake, OPTM

[illegible]

Pasquill Category E

[illegible]

Pasquill Category B

American robin intake, OPTM

[illegible]

Pasquill Category C

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Environmentally Preferred Training Method

American robin intake, EPTM

Static Smoke																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Pasquill Category B

American robin intake, EPTM

Static Smoke																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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American robin intake, EPTM

Static Smoke												
	Distance (m)	Fog Oil Concentration (g/m ³)		Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
				Daily IR	Hourly IR	Event IR						
Inhalation	3500	0.01		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-07	
	4500	0.005		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	3.6E-07	
	6500	0.002		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	1.4E-07	
	8500	0.001		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-08	
	12500	0.0005		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	3.6E-08	
	22500	0.0002		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	1.4E-08	
	35500	0.0001		4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-09	

American robin intake, EPTM

Static Smoke										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR					
Inhalation	4000	0.01	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-07
	5000	0.005	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	3.6E-07
	9000	0.002	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	1.4E-07
	14000	0.001	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-08
	24000	0.0005	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	3.6E-08
	50000	0.0002	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	1.4E-08
	50000+	0.0001	4.1E-02	1.7E-03	2.6E-03	0.9	1.5	0.09	547.5	7.2E-09
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American robin intake, EPTM

Mobile Smoke - Musgrave Hollow									
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR				AT (days)
Inhalation									
	4000	0.01	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	4000	0.002	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	5000	0.001	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	5000	0.0005	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	7000	0.0002	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	9000	0.0001	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5
	Distance (m)	Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
					Daily IR				
Ingestion									
	4000	0.01	7.8E-06	6.0E-07	8.0E+01	16.3	1.5	0.09	547.5
	5000	0.005	3.9E-06	3.0E-07	4.2E-06	16.3	1.5	0.09	547.5
	6000	0.002	1.6E-06	1.2E-07	1.7E-06	16.3	1.5	0.09	547.5
	7500	0.001	7.8E-07	6.0E-08	8.4E-07	16.3	1.5	0.09	547.5
	9500	0.0005	3.9E-07	3.0E-08	4.2E-07	16.3	1.5	0.09	547.5
	14500	0.0002	1.6E-07	1.2E-08	1.7E-07	16.3	1.5	0.09	547.5
	20000	0.0001	7.8E-08	6.0E-09	8.4E-08	16.3	1.5	0.09	547.5
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	4000	0.01	0.0198		1	16.3	1.5	0.09	547.5
	5000	0.005	0.0198		1	16.3	1.5	0.09	547.5
	6000	0.002	0.0198		1	16.3	1.5	0.09	547.5
	7500	0.001	0.0198		1	16.3	1.5	0.09	547.5
	9500	0.0005	0.0198		1	16.3	1.5	0.09	547.5
	14500	0.0002	0.0198		1	16.3	1.5	0.09	547.5
	20000	0.0001	0.0198		1	16.3	1.5	0.09	547.5

Pasquill Category B

American robin intake, EPTM

Mobile Smoke - Musgrave Hollow		Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
Distance (m)			Daily IR	Hourly IR	Event IR						
Inhalation											
3000	0.01	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	2.1E-05		
3000	0.005	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	1.1E-05		
3000	0.002	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	4.3E-06		
4500	0.001	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	2.1E-06		
6500	0.0005	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	1.1E-06		
9500	0.0002	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	4.3E-07		
14000	0.0001	4.1E-02	1.7E-03	4.3E-03	18.5	1.5	0.09	547.5	2.1E-07		
		Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion						Daily IR					
3000	0.01	7.8E-06	6.0E-07	8.4E-06	8.0E-01	18.5	1.5	0.09	547.5	3.4E-04	
4000	0.005	3.9E-06	3.0E-07	4.2E-06	8.0E-01	18.5	1.5	0.09	547.5	1.7E-04	
5000	0.002	1.8E-06	1.2E-07	1.7E-06	8.0E-01	18.5	1.5	0.09	547.5	6.7E-05	
8500	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E-01	18.5	1.5	0.09	547.5	3.4E-05	
12000	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E-01	18.5	1.5	0.09	547.5	1.7E-05	
24000	0.0002	1.8E-07	1.2E-08	1.7E-07	8.0E-01	18.5	1.5	0.09	547.5	6.7E-06	
40000	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E-01	18.5	1.5	0.09	547.5	3.4E-06	
		Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
3000	0.01	0.0198	1	18.5	1.5	0.09	547.5	9.9E-05			
4000	0.005	0.0198	1	18.5	1.5	0.09	547.5	5.0E-05			
5000	0.002	0.0198	1	18.5	1.5	0.09	547.5	2.0E-05			
8500	0.001	0.0198	1	18.5	1.5	0.09	547.5	9.9E-06			
12000	0.0005	0.0198	1	18.5	1.5	0.09	547.5	5.0E-06			
24000	0.0002	0.0198	1	18.5	1.5	0.09	547.5	2.0E-06			
40000	0.0001	0.0198	1	18.5	1.5	0.09	547.5	9.9E-07			

Pasquill Category C

American robin intake, EPTM

[illegible]

American robin intake, EPTM

Mobile Smoke - Musgrave Hollow		Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Distance (m)			Daily IR	Hourly IR	Event IR					
	Inhalation									
3000		0.01	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	2.1E-05
4000		0.005	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	1.1E-05
7000		0.002	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	4.2E-06
10000		0.001	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	2.1E-06
18000		0.0005	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	1.1E-06
30000		0.0002	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	4.2E-07
50000		0.0001	4.1E-02	1.7E-03	4.3E-03	16.3	1.5	0.09	547.5	2.1E-07
		Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Distance (m)						Daily IR				
	Ingestion									
7500		0.01	7.8E-06	6.0E-07	8.4E-06	8.0E+01	16.3	1.5	0.09	547.5
10000		0.005	3.9E-06	3.0E-07	4.2E-06	8.0E+01	16.3	1.5	0.09	547.5
18000		0.002	1.6E-06	1.2E-07	1.7E-06	8.0E+01	16.3	1.5	0.09	547.5
30000		0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	16.3	1.5	0.09	547.5
50000		0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	16.3	1.5	0.09	547.5
50000+		0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	16.3	1.5	0.09	547.5
50000++		0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	16.3	1.5	0.09	547.5
		Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Distance (m)										
	Dermal Absorption									
7500		0.01		0.0198	1	16.3	1.5	0.09	547.5	9.8E-05
10000		0.005		0.0198	1	16.3	1.5	0.09	547.5	4.9E-05
18000		0.002		0.0198	1	16.3	1.5	0.09	547.5	2.0E-05
30000		0.001		0.0198	1	16.3	1.5	0.09	547.5	9.8E-06
50000		0.0005		0.0198	1	16.3	1.5	0.09	547.5	4.9E-06
50000+		0.0002		0.0198	1	16.3	1.5	0.09	547.5	2.0E-06
50000++		0.0001		0.0198	1	16.3	1.5	0.09	547.5	9.8E-07

Pasquill Category E

American robin intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
			Daily IR	Hourly IR	Event IR						
Inhalation	4000	0.01	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-05	
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-06	
	4000	0.002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-06	
	5000	0.001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-06	
	5000	0.0005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-07	
	7000	0.0002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-07	
	9000	0.0001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-07	
Ingestion	4000	0.01	6.0E-07	8.4E-06	8.0E+01	8.2	1.5	0.09	547.5	1.7E-04	
	5000	0.005	3.0E-07	4.2E-06	8.0E+01	8.2	1.5	0.09	547.5	8.3E-05	
	6000	0.002	1.2E-07	1.7E-06	8.0E+01	8.2	1.5	0.09	547.5	3.3E-05	
	7500	0.001	6.0E-08	8.4E-07	8.0E+01	8.2	1.5	0.09	547.5	1.7E-05	
	9500	0.0005	3.0E-08	4.2E-07	8.0E+01	8.2	1.5	0.09	547.5	8.3E-06	
	14500	0.0002	1.2E-08	1.7E-07	8.0E+01	8.2	1.5	0.09	547.5	3.3E-06	
	20000	0.0001	6.0E-09	8.4E-08	8.0E+01	8.2	1.5	0.09	547.5	1.7E-06	
Dermal Absorption	4000	0.01	0.0198		1	8.2	1.5	0.09	547.5	4.9E-05	
	5000	0.005	0.0198		1	8.2	1.5	0.09	547.5	2.5E-05	
	6000	0.002	0.0198		1	8.2	1.5	0.09	547.5	9.8E-06	
	7500	0.001	0.0198		1	8.2	1.5	0.09	547.5	4.9E-06	
	9500	0.0005	0.0198		1	8.2	1.5	0.09	547.5	2.5E-06	
	14500	0.0002	0.0198		1	8.2	1.5	0.09	547.5	9.8E-07	
	20000	0.0001	0.0198		1	8.2	1.5	0.09	547.5	4.9E-07	

Pasquill Category B

American robin intake, EPTM

[illegible]

American robin intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation			Daily IR	Hourly IR	Event IR					
	2500	0.01	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-05
	3000	0.005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-06
	4500	0.002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-06
	6000	0.001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-06
	8500	0.0005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-07
	16500	0.0002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-07
	26500	0.0001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-07
	Distance (m)	Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion										
	6500	0.01	7.8E-06	6.0E-07	8.4E-06	8.0E+01	8.2	1.5	0.09	1.7E-04
	8500	0.005	3.9E-06	3.0E-07	4.2E-06	8.0E+01	8.2	1.5	0.09	8.3E-05
	14500	0.002	1.6E-06	1.2E-07	1.7E-06	8.0E+01	8.2	1.5	0.09	3.3E-05
	22000	0.001	7.8E-07	6.0E-08	8.4E-07	8.0E+01	8.2	1.5	0.09	1.7E-05
	35500	0.0005	3.9E-07	3.0E-08	4.2E-07	8.0E+01	8.2	1.5	0.09	8.3E-06
	50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	8.0E+01	8.2	1.5	0.09	3.3E-06
	50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	8.0E+01	8.2	1.5	0.09	1.7E-06
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	6500	0.01	0.0198		1	8.2	1.5	0.09	547.5	4.9E-05
	8500	0.005	0.0198		1	8.2	1.5	0.09	547.5	2.5E-05
	14500	0.002	0.0198		1	8.2	1.5	0.09	547.5	9.8E-06
	22000	0.001	0.0198		1	8.2	1.5	0.09	547.5	4.9E-06
	35500	0.0005	0.0198		1	8.2	1.5	0.09	547.5	2.5E-06
	50000+	0.0002	0.0198		1	8.2	1.5	0.09	547.5	9.8E-07
	50000++	0.0001	0.0198		1	8.2	1.5	0.09	547.5	4.9E-07

Pasquill Category D

American robin intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow														
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)					
			Daily IR	Hourly IR						Event IR				
Inhalation	3000	0.01	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-05				
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-06				
	7000	0.002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-06				
	10000	0.001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-06				
	16000	0.0005	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	5.3E-07				
	30000	0.0002	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	2.1E-07				
	50000	0.0001	4.1E-02	1.7E-03	4.3E-03	8.2	1.5	0.09	547.5	1.1E-07				
			</											

American robin intake, EPTM

[illegible]

Pasquill Category B

American robin intake, EPTM

[illegible]

American robin intake, EPTM

[illegible]

Pasquill Category D

American robin intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Inhalation			Daily IR	Hourly IR	Event IR						
	3000	0.01	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	1.3E-05	
	4000	0.005	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	6.6E-06	
	7000	0.002	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	2.7E-06	
	10000	0.001	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	1.3E-06	
	16000	0.0005	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	6.6E-07	
	30000	0.0002	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	2.7E-07	
	50000	0.0001	4.1E-02	1.7E-03	4.3E-03	10.2	1.5	0.09	547.5	1.3E-07	
	Distance (m)	Fog Oil Concentration (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Ingestion											
	7500	0.01	7.8E-06	6.0E-07	8.4E-06	10.2	1.5	0.09	547.5	2.1E-04	
	10000	0.005	3.9E-06	3.0E-07	4.2E-06	10.2	1.5	0.09	547.5	1.0E-04	
	18000	0.002	1.6E-06	1.2E-07	1.7E-06	10.2	1.5	0.09	547.5	4.2E-05	
	30000	0.001	7.8E-07	6.0E-08	8.4E-07	10.2	1.5	0.09	547.5	2.1E-05	
	50000	0.0005	3.9E-07	3.0E-08	4.2E-07	10.2	1.5	0.09	547.5	1.0E-05	
	50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	10.2	1.5	0.09	547.5	4.2E-06	
	50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	10.2	1.5	0.09	547.5	2.1E-06	
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)			ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption											
	7500	0.01			0.0198	1	10.2	1.5	0.09	547.5	6.2E-05
	10000	0.005			0.0198	1	10.2	1.5	0.09	547.5	3.1E-05
	18000	0.002			0.0198	1	10.2	1.5	0.09	547.5	1.2E-05
	30000	0.001			0.0198	1	10.2	1.5	0.09	547.5	6.2E-06
	50000	0.0005			0.0198	1	10.2	1.5	0.09	547.5	3.1E-06
	50000+	0.0002			0.0198	1	10.2	1.5	0.09	547.5	1.2E-06
	50000++	0.0001			0.0198	1	10.2	1.5	0.09	547.5	6.2E-07

Pasquill Category B

Pasquill Category B

[illegible]

American robin intake, EPTM

[illegible]

Pasquill Category D

[illegible]

Appendix IX
Risk Characterization Tables for American Robin

APPENDIX IX:

Risk Characterization Tables for American Robin

RISK PARAMETERS FOR AMERICAN ROBINS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Relocate Current Practice

American robin risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.1E-01	No	No
	5000	5.0E-03	6.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.5E-01	No	No
	6000	2.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No	No
	7000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.1E-02	No	No
	8000	5.0E-04	6.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.5E-02	No	No
	12000	2.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No	No
		1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.1E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	4000	6.4E-06	3.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.5E-02	No	No
	5000	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No	No
	6000	1.7E-06	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.0E-03	No	No
	7000	8.4E-07	3.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.5E-03	No	No
	9500	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No	No
	14000	1.7E-07	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.0E-04	No	No
	20000	8.4E-08	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	4000	1.0E-02	1.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.4E-05	No	No
	5000	5.0E-03	5.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.7E-05	No	No
	6000	2.0E-03	2.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	7000	1.0E-03	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.4E-06	No	No
	9500	5.0E-04	5.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.7E-06	No	No
	14000	2.0E-04	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
	20000	1.0E-04	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category B

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.1E-01	No	No
	3500	5.0E-03	6.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.5E-01	No	No
	4000	2.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No	No
	5500	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.1E-02	No	No
	7500	5.0E-04	6.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.5E-02	No	No
	12000	2.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No	No
	16500	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.1E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Ingestion														
	3500	8.4E-06	3.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.5E-02	No	No
	4000	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No	No
	5500	1.7E-06	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.0E-03	No	No
	8000	8.4E-07	3.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.5E-03	No	No
	12000	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No	No
	24000	1.7E-07	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.0E-04	No	No
	40000	8.4E-08	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	3500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.4E-05	No	No
	4000	5.0E-03	5.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.7E-05	No	No
	5500	2.0E-03	2.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	8000	1.0E-03	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.4E-06	No	No
	12000	5.0E-04	5.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.7E-06	No	No
	24000	2.0E-04	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
	40000	1.0E-04	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.1E-01	No	No
	4500	5.0E-03	6.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.5E-01	No	No
	6500	2.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No	No
	8500	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.1E-02	No	No
	12500	5.0E-04	6.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.5E-02	No	No
	22500	2.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No	No
	35500	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.1E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	6500	8.4E-06	3.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-02	No	No
	8500	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-08	1.2E-02	No	No
	14000	1.7E-06	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-08	5.0E-03	No	No
	22000	8.4E-07	3.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.5E-03	No	No
	35500	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No	No
	50000+	1.7E-07	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.0E-04	No	No
	50000++	8.4E-08	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramehan 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	6500	1.0E-02	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.4E-05	No	No
	8500	5.0E-03	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.7E-05	No	No
	14000	2.0E-03	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	22000	1.0E-03	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.4E-06	No	No
	35500	5.0E-04	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.7E-06	No	No
	50000+	2.0E-04	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
	50000++	1.0E-04	0.0198	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	5.1E-01	No	No
	5000	5.0E-03	6.5E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	2.5E-01	No	No
	9000	2.0E-03	2.6E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	1.0E-01	No	No
	14000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	5.1E-02	No	No
	24000	5.0E-04	6.5E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	2.5E-02	No	No
	50000	2.0E-04	2.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	1.0E-02	No	No
	50000+	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	5.1E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	7500	8.4E-06	3.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.5E-02	No	No
	10000	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No	No
	18000	1.7E-06	6.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.0E-03	No	No
	30000	8.4E-07	3.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.5E-03	No	No
	50000	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No	No
	50000+	1.7E-07	6.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.0E-04	No	No
	50000++	8.4E-08	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.4E-05	No	No
	10000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.7E-05	No	No
	18000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	30000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.4E-06	No	No
	50000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.7E-06	No	No
	50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
	50000++	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.4E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	4.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.8E+00	No	Yes
5000	5.0E-03	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	8.9E-01	No	No
6000	2.0E-03	9.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	3.8E-01	No	No
7500	1.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.8E-01	No	No
9500	5.0E-04	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	8.9E-02	No	No
14500	2.0E-04	9.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	3.8E-02	No	No
20000	1.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.8E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion													
4000	8.4E-06	7.2E-04	176	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	5.2E-02	No	No
5000	4.2E-06	3.6E-04	176	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	2.6E-02	No	No
6000	1.7E-06	1.4E-04	176	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	1.0E-02	No	No
7500	8.4E-07	7.2E-05	176	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	5.2E-03	No	No
9500	4.2E-07	3.6E-05	176	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	2.6E-03	No	No
14500	1.7E-07	1.4E-05	176	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	1.0E-03	No	No
20000	8.4E-08	7.2E-06	176	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	5.2E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Dermal Absorption													
4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.6E-04	No	No
5000	5.0E-03	1.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.8E-05	No	No
6000	2.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-05	No	No
7500	1.0E-03	2.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.6E-05	No	No
9500	5.0E-04	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.9E-06	No	No
14500	2.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-06	No	No
20000	1.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.6E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow		Daily Chronic Intake Value (g/m ³)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)														
		3000	1.0E-02	4.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.8E+00	No	Yes
		3000	5.0E-03	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	8.9E-01	No	No
		3000	2.0E-03	9.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	3.6E-01	No	No
		4500	1.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.8E-01	No	No
		6500	5.0E-04	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	8.9E-02	No	No
		9500	2.0E-04	9.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	3.6E-02	No	No
Ingestion	Distance (m)														
		3000	8.4E-06	7.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.9E-06	5.2E-02	No	No
		4000	4.2E-06	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	2.6E-02	No	No
		5000	1.7E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	1.0E-02	No	No
		8500	8.4E-07	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.9E-07	5.2E-03	No	No
		12000	4.2E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	2.6E-03	No	No
		24000	1.7E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	1.0E-03	No	No
Dermal Absorption	Distance (m)														
		3000	1.0E-02	2.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.8E-04	No	No
		4000	5.0E-03	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.9E-05	No	No
		5000	2.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-05	No	No
		8500	1.0E-03	2.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.8E-05	No	No
		12000	5.0E-04	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.9E-06	No	No
		24000	2.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-06	No	No
Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990	Distance (m)														
		3000	1.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.8E-06	No	No
		4000	5.0E-05	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-04	7.9E-07	No	No
		5000	2.0E-05	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-04	3.1E-07	No	No
		8500	1.0E-05	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-05	1.8E-07	No	No
		12000	5.0E-06	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-05	7.9E-08	No	No
		24000	2.0E-06	4.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-05	3.1E-08	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
***Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Musgrave Hollow														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Inhalation	2500	1.0E-02	4.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.8E+00	No	Yes	
	3000	5.0E-03	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	8.9E-01	No	No	
	4500	2.0E-03	9.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	3.6E-01	No	No	
	6000	1.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.8E-01	No	No
	9500	5.0E-04	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	8.9E-02	No	No
	16500	2.0E-04	9.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	3.6E-02	No	No
26500	1.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.8E-02	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion	6500	8.4E-06	7.2E-04	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	5.2E-02	No	No	
	8500	4.2E-06	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	3.8E-06	2.6E-02	No	No	
	14500	1.7E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.5E-06	1.0E-02	No	No	
	22000	8.4E-07	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	7.6E-07	5.2E-03	No	No	
	35500	4.2E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	3.8E-07	2.6E-03	No	No	
	50000+	1.7E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.5E-07	1.0E-03	No	No	
50000++	8.4E-08	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	5.2E-04	No	No		
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Dermal Absorption	6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-02	1.6E-04	No	No	
	8500	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	4.0E-02	7.9E-05	No	No	
	14500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.6E-02	3.1E-05	No	No	
	22000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-03	1.6E-05	No	No	
	35500	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	4.0E-03	7.9E-06	No	No	
	50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.6E-03	3.1E-06	No	No	
50000++	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-04	1.6E-06	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	4.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.8E+00	No	Yes
4000	5.0E-03	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	8.9E-01	No	No
7000	2.0E-03	9.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	3.6E-01	No	No
10000	1.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.8E-01	No	No
16000	5.0E-04	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	8.9E-02	No	No
30000	2.0E-04	9.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	3.6E-02	No	No
50000	1.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.8E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion													
7500	8.4E-06	7.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	5.2E-02	No	No
10000	4.2E-06	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	2.6E-02	No	No
18000	1.7E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	1.0E-02	No	No
30000	8.4E-07	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	5.2E-03	No	No
50000	4.2E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	2.6E-03	No	No
50000+	1.7E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	1.0E-03	No	No
50000++	8.4E-08	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	5.2E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.6E-04	No	No
10000	5.0E-03	1.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	7.9E-05	No	No
18000	2.0E-03	4.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	3.1E-05	No	No
30000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.6E-05	No	No
50000	5.0E-04	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	7.9E-06	No	No
50000+	2.0E-04	4.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	3.1E-06	No	No
50000++	1.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.6E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1950													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
4000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
4000	2.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
5000	1.0E-03	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
5000	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
7000	2.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
9000	1.0E-04	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	8.4E-06	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
5000	4.2E-06	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
6000	1.7E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
7500	6.4E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
9500	4.2E-07	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
14500	1.7E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
20000	8.4E-08	3.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
5000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
6000	2.0E-03	5.3E-03	2	216	16	160	0.13	1.4E+00	1.4E+00
7500	1.0E-03	2.1E-03	2	216	16	160	0.13	1.4E+00	1.4E+00
9500	5.0E-04	1.1E-03	2	216	16	160	0.13	1.4E+00	1.4E+00
14500	2.0E-04	5.3E-04	2	216	16	160	0.13	1.4E+00	1.4E+00
20000	1.0E-04	2.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow ex Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
3000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
3000	2.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
4500	1.0E-03	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
6500	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
9500	2.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
14000	1.0E-04	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
3000	8.4E-08	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
4000	4.2E-08	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
5000	1.7E-08	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
8500	8.4E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
12000	4.2E-07	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
24000	1.7E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
40000	8.4E-08	3.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1956									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
3000	1.0E-02	2.0E-02	1.1E-04	2	216	160	0.13	1.4E-00	1.4E-00
4000	5.0E-03	2.0E-02	5.3E-05	2	216	160	0.13	1.4E-00	1.4E-00
5000	2.0E-03	2.0E-02	2.1E-05	2	216	160	0.13	1.4E-00	1.4E-00
8500	1.0E-03	2.0E-02	1.1E-05	2	216	160	0.13	1.4E-00	1.4E-00
12000	5.0E-04	2.0E-02	5.3E-06	2	216	160	0.13	1.4E-00	1.4E-00
24000	2.0E-04	2.0E-02	2.1E-06	2	216	160	0.13	1.4E-00	1.4E-00
40000	1.0E-04	2.0E-02	1.1E-06	2	216	160	0.13	1.4E-00	1.4E-00
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

American robin risk RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	8.9E-01	No	No
3000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	4.5E-01	No	No
4500	2.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	1.8E-01	No	No
6000	1.0E-03	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	8.9E-02	No	No
9500	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	4.5E-02	No	No
16500	2.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	1.8E-02	No	No
26500	1.0E-04	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	8.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	8.4E-06	3.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	2.8E-02	No	No
8500	4.2E-06	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.3E-02	No	No
14500	1.7E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.2E-03	No	No
22000	8.4E-07	3.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	2.8E-03	No	No
35500	4.2E-07	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.3E-03	No	No
50000+	1.7E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.2E-04	No	No
50000++	8.4E-08	3.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	2.8E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.9E-05	No	No
8500	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.9E-05	No	No
14500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.6E-05	No	No
22000	1.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.9E-06	No	No
35500	5.0E-04	5.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.9E-06	No	No
50000+	2.0E-04	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.6E-06	No	No
50000++	1.0E-04	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.9E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.9E-01	No	No
4000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.5E-01	No	No
7000	2.0E-03	4.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.8E-01	No	No
10000	1.0E-03	2.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.9E-02	No	No
16000	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.5E-02	No	No
30000	2.0E-04	4.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.8E-02	No	No
50000	1.0E-04	2.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.9E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	8.4E-06	3.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.6E-02	No	No
10000	4.2E-06	1.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.3E-02	No	No
18000	1.7E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.2E-03	No	No
30000	8.4E-07	3.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.6E-03	No	No
50000	4.2E-07	1.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.3E-03	No	No
50000+	1.7E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.2E-04	No	No
50000++	8.4E-08	3.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.6E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramschel 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.9E-05	No	No
10000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.9E-05	No	No
18000	2.0E-03	4.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.6E-05	No	No
30000	1.0E-03	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.9E-06	No	No
50000	5.0E-04	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.9E-06	No	No
50000+	2.0E-04	4.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.6E-06	No	No
50000++	1.0E-04	2.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.9E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	2.9E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.1E+00	No	Yes
	4000	5.0E-03	1.4E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	5.8E-01	No	No
	4000	2.0E-03	5.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.2E-01	No	No
	5000	1.0E-03	2.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.1E-01	No	No
	5000	5.0E-04	1.4E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	5.8E-02	No	No
	7000	2.0E-04	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.2E-02	No	No
	9000	1.0E-04	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.1E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	4000	8.4E-06	4.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.3E-02	No	No
	5000	4.2E-06	2.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.6E-02	No	No
	6000	1.7E-06	9.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	6.5E-03	No	No
	7500	8.4E-07	4.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.3E-03	No	No
	9500	4.2E-07	2.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.6E-03	No	No
	14500	1.7E-07	9.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	6.5E-04	No	No
	20000	8.4E-08	4.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	9.8E-05	No	No
	5000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-05	No	No
	6000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.0E-05	No	No
	7500	1.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	9.8E-06	No	No
	9500	5.0E-04	5.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-06	No	No
	14500	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.0E-06	No	No
	20000	1.0E-04	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	9.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	2.9E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.1E+00	No	Yes
	3000	5.0E-03	1.4E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	5.6E-01	No	No
	3000	2.0E-03	5.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.2E-01	No	No
	4500	1.0E-03	2.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.1E-01	No	No
	6500	5.0E-04	1.4E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	5.6E-02	No	No
	9500	2.0E-04	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.2E-02	No	No
	14000	1.0E-04	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.1E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	3000	8.4E-06	4.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.3E-02	No	No
	4000	4.2E-06	2.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.6E-02	No	No
	5000	1.7E-06	9.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	6.5E-03	No	No
	8500	8.4E-07	4.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.3E-03	No	No
	12000	4.2E-07	2.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.6E-03	No	No
	24000	1.7E-07	9.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	6.5E-04	No	No
	40000	8.4E-08	4.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	9.8E-05	No	No
	4000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-05	No	No
	5000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.0E-05	No	No
	8500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	9.8E-06	No	No
	12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-06	No	No
	24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.0E-06	No	No
	40000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	9.8E-07	No	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	2.9E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.1E+00	No	Yes
	3000	5.0E-03	1.4E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	5.6E-01	No	No
	4500	2.0E-03	5.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.2E-01	No	No
	6000	1.0E-03	2.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.1E-01	No	No
	8500	5.0E-04	1.4E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	5.6E-02	No	No
	16500	2.0E-04	5.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.2E-02	No	No
	26500	1.0E-04	2.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.1E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	8.4E-06	4.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.3E-02	No	No
	8500	4.2E-06	2.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.6E-02	No	No
	14500	1.7E-06	9.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	6.5E-03	No	No
	22000	8.4E-07	4.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.3E-03	No	No
	35500	4.2E-07	2.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.6E-03	No	No
	50000+	1.7E-07	9.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	6.5E-04	No	No
	50000++	8.4E-08	4.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.3E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	9.8E-05	No	No
	8500	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.9E-05	No	No
	14500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.0E-05	No	No
	22000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	9.8E-06	No	No
	35500	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.9E-06	No	No
	50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.0E-06	No	No
	50000++	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	9.8E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
	Distance (m)	Daily Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/m ³)								
Inhalation											
	3000	1.0E-02	2.9E-05	60	0.1		16		160	3.75	2.7E-05
	4000	5.0E-03	1.4E-05	60	0.1		16		160	3.75	1.3E-05
	7000	2.0E-03	5.7E-06	60	0.1		16		160	3.75	5.3E-06
	10000	1.0E-03	2.9E-06	60	0.1		16		160	3.75	2.7E-06
	16000	5.0E-04	1.4E-06	60	0.1		16		160	3.75	1.3E-06
	30000	2.0E-04	5.7E-07	60	0.1		16		160	3.75	5.3E-07
	50000	1.0E-04	2.9E-07	60	0.1		16		160	3.75	2.7E-07
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992											
	Distance (m)	Daily Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
		Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg)								
Ingestion											
	7500	8.4E-06	4.5E-04	17.6	22		16		1600	1.10	1.4E-02
	10000	4.2E-06	2.2E-04	17.6	22		16		1600	1.10	7.0E-03
	18000	1.7E-06	9.0E-05	17.6	22		16		1600	1.10	1.4E-02
	30000	8.4E-07	4.5E-05	17.6	22		16		1600	1.10	7.0E-03
	50000	4.2E-07	2.2E-05	17.6	22		16		1600	1.10	1.4E-02
	50000+	1.7E-07	9.0E-06	17.6	22		16		1600	1.10	7.0E-03
	50000++	8.4E-08	4.5E-06	17.6	22		16		1600	1.10	3.5E-04
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989											
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption											
	7500	1.0E-02	2.0E-02	1.3E-04	2	216	16		160	0.13	1.4E+00
	10000	5.0E-03	2.0E-02	6.6E-05	2	216	16		160	0.13	7.0E-01
	18000	2.0E-03	2.0E-02	2.6E-05	2	216	16		160	0.13	1.4E+00
	30000	1.0E-03	2.0E-02	1.3E-05	2	216	16		160	0.13	7.0E-01
	50000	5.0E-04	2.0E-02	6.6E-06	2	216	16		160	0.13	1.4E+00
	50000+	2.0E-04	2.0E-02	2.6E-06	2	216	16		160	0.13	7.0E-01
	50000++	1.0E-04	2.0E-02	1.3E-06	2	216	16		160	0.13	3.5E-02
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	3.4E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No	Yes
4000	5.0E-03	1.7E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.7E-01	No	No
4000	2.0E-03	6.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.7E-01	No	No
5000	1.0E-03	3.4E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	1.3E-01	No	No
5000	5.0E-04	1.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	6.7E-02	No	No
7000	2.0E-04	6.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.7E-02	No	No
9000	1.0E-04	3.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	8.4E-08	5.4E-04	17.6	22	16	1600	1.10	1.4E-02	7.8E-06	3.9E-02	3.9E-02	No	No
5000	4.2E-08	2.7E-04	17.6	22	16	1600	1.10	1.4E-02	3.9E-06	2.0E-02	2.0E-02	No	No
6000	1.7E-06	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.5E-06	7.8E-03	7.8E-03	No	No
7500	8.4E-07	5.4E-05	17.6	22	16	1600	1.10	1.4E-02	7.8E-07	3.9E-03	3.9E-03	No	No
9500	4.2E-07	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	3.9E-07	2.0E-03	2.0E-03	No	No
14500	1.7E-07	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.5E-07	7.8E-04	7.8E-04	No	No
20000	8.4E-08	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	7.8E-08	3.9E-04	3.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	2.0E-02	1.8E-04	2	216	16	160	0.13	1.4E+00	8.0E-02	1.2E-04	No	No
5000	5.0E-03	2.0E-02	7.9E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	5.9E-05	No	No
6000	2.0E-03	2.0E-02	3.2E-05	2	216	16	160	0.13	1.4E+00	1.6E-02	2.4E-05	No	No
7500	1.0E-03	2.0E-02	1.6E-05	2	216	16	160	0.13	1.4E+00	8.0E-03	1.2E-05	No	No
9500	5.0E-04	2.0E-02	7.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	5.9E-06	No	No
14500	2.0E-04	2.0E-02	3.2E-06	2	216	16	160	0.13	1.4E+00	1.6E-03	2.4E-06	No	No
20000	1.0E-04	2.0E-02	1.6E-06	2	216	16	160	0.13	1.4E+00	8.0E-04	1.2E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	3.4E-05	60	0.1	16		160	3.75	2.6E-05	2.7E-03	1.3E+00	No	Yes
	3000	5.0E-03	1.7E-05	60	0.1	16		160	3.75	2.6E-05	1.3E-03	6.7E-01	No	No
	3000	2.0E-03	6.9E-06	60	0.1	16		160	3.75	2.6E-05	5.3E-04	2.7E-01	No	No
	4500	1.0E-03	3.4E-06	60	0.1	16		160	3.75	2.6E-05	2.7E-04	1.3E-01	No	No
	6500	5.0E-04	1.7E-06	60	0.1	16		160	3.75	2.6E-05	1.3E-04	6.7E-02	No	No
	8500	2.0E-04	6.9E-07	60	0.1	16		160	3.75	2.6E-05	5.3E-05	2.7E-02	No	No
14000	1.0E-04	3.4E-07	60	0.1	16		160	3.75	2.6E-05	2.7E-05	1.3E-02	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	3000	8.4E-06	5.4E-04	17.6	22	16		1600	1.10	1.4E-02	7.6E-06	3.9E-02	No	No
	4000	4.2E-06	2.7E-04	17.6	22	16		1600	1.10	1.4E-02	3.9E-06	2.0E-02	No	No
	5000	1.7E-06	1.1E-04	17.6	22	16		1600	1.10	1.4E-02	1.5E-06	7.8E-03	No	No
	8500	8.4E-07	5.4E-05	17.6	22	16		1600	1.10	1.4E-02	7.6E-07	3.9E-03	No	No
	12000	4.2E-07	2.7E-05	17.6	22	16		1600	1.10	1.4E-02	3.9E-07	2.0E-03	No	No
	24000	1.7E-07	1.1E-05	17.6	22	16		1600	1.10	1.4E-02	1.5E-07	7.8E-04	No	No
40000	8.4E-08	5.4E-06	17.6	22	16		1600	1.10	1.4E-02	7.6E-08	3.9E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	3000	1.0E-02	2.0E-02	2	216	16		160	0.13	1.4E+00	8.0E-02	1.2E-04	No	No
	4000	5.0E-03	7.9E-05	2	216	16		160	0.13	1.4E+00	4.0E-02	5.9E-05	No	No
	5000	2.0E-03	3.2E-05	2	216	16		160	0.13	1.4E+00	1.6E-02	2.4E-05	No	No
	8500	1.0E-03	1.6E-05	2	216	16		160	0.13	1.4E+00	8.0E-03	1.2E-05	No	No
	12000	5.0E-04	7.9E-06	2	216	16		160	0.13	1.4E+00	4.0E-03	5.9E-06	No	No
	24000	2.0E-04	3.2E-06	2	216	16		160	0.13	1.4E+00	1.6E-03	2.4E-06	No	No
40000	1.0E-04	1.6E-06	2	216	16		160	0.13	1.4E+00	8.0E-04	1.2E-06	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	3.4E-05	60	0.1	18	180	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No	Yes
	3000	5.0E-03	1.7E-05	60	0.1	18	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.7E-01	No	No
	4500	2.0E-03	6.9E-06	60	0.1	18	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.7E-01	No	No
	6000	1.0E-03	3.4E-06	60	0.1	18	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.3E-01	No	No
	9500	5.0E-04	1.7E-06	60	0.1	18	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.7E-02	No	No
	16500	2.0E-04	6.9E-07	60	0.1	18	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.7E-02	No	No
	26500	1.0E-04	3.4E-07	60	0.1	18	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	8.4E-06	5.4E-04	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.9E-02	No	No
	8500	4.2E-06	2.7E-04	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	3.8E-06	2.0E-02	No	No
	14500	1.7E-06	1.1E-04	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.8E-03	No	No
	22000	8.4E-07	5.4E-05	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.9E-03	No	No
	35500	4.2E-07	2.7E-05	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	3.8E-07	2.0E-03	No	No
	50000+	1.7E-07	1.1E-05	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.8E-04	No	No
	50000++	8.4E-08	5.4E-06	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	8500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-04	No	No
	14500	5.0E-03	7.9E-05	2	216	18	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.9E-05	No	No
	22000	2.0E-03	3.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.4E-05	No	No
	35500	1.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-05	No	No
	50000+	5.0E-04	7.9E-06	2	216	18	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.9E-06	No	No
	50000++	2.0E-04	3.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.4E-06	No	No
	50000++	1.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	3.4E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No	Yes
	4000	5.0E-03	1.7E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.7E-01	No	No
	7000	2.0E-03	6.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.7E-01	No	No
	10000	1.0E-03	3.4E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.3E-01	No	No
	16000	5.0E-04	1.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.7E-02	No	No
	30000	2.0E-04	6.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.7E-02	No	No
	50000	1.0E-04	3.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shirm et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	8.4E-06	5.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.9E-02	No	No
	10000	4.2E-06	2.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	2.0E-02	No	No
	18000	1.7E-06	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.8E-03	No	No
	30000	8.4E-07	5.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.9E-03	No	No
	50000	4.2E-07	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	2.0E-03	No	No
	50000+	1.7E-07	1.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.8E-04	No	No
	50000++	8.4E-08	5.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	1.6E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-04	No	No
	10000	5.0E-03	7.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.9E-05	No	No
	18000	2.0E-03	3.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.4E-05	No	No
	30000	1.0E-03	1.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-05	No	No
	50000	5.0E-04	7.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.9E-06	No	No
	50000+	2.0E-04	3.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.4E-06	No	No
	50000++	1.0E-04	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Operationally Preferred Training Method

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	5.5E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	2.2E-01	No	No
	4000	5.0E-03	2.8E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	1.1E-01	No	No
	5000	2.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	4.3E-02	No	No
	5000	1.0E-03	5.5E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	2.2E-02	No	No
	6000	5.0E-04	2.8E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	1.1E-02	No	No
	8000	2.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	4.3E-03	No	No
	12000	1.0E-04	5.5E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	2.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	4000	8.4E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.1E-02	No	No
	5000	4.2E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	5.3E-03	No	No
	6000	1.7E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.1E-03	No	No
	7000	8.4E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.1E-03	No	No
	9500	4.2E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	5.3E-04	No	No
	14000	1.7E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.1E-04	No	No
	20000	8.4E-08	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brenschat 1959														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.2E-05	No	No
	5000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-05	No	No
	6000	2.0E-03	8.5E-06	2	216	18	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.3E-06	No	No
	7000	1.0E-03	4.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.2E-06	No	No
	9500	5.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-06	No	No
	14000	2.0E-04	8.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.3E-07	No	No
	20000	1.0E-04	4.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	5.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	2.2E-01	No	No
	3500	5.0E-03	2.8E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	1.1E-01	No	No
	4000	2.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	4.3E-02	No	No
	5500	1.0E-03	5.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	2.2E-02	No	No
	7500	5.0E-04	2.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	1.1E-02	No	No
	12000	2.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	4.3E-03	No	No
	18500	1.0E-04	5.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	2.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	8.4E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.1E-02	No	No
	4000	4.2E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	5.3E-03	No	No
	5500	1.7E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.1E-03	No	No
	8000	8.4E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.1E-03	No	No
	12000	4.2E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	5.3E-04	No	No
	24000	1.7E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.1E-04	No	No
	40000	8.4E-08	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	3500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.2E-05	No	No
	4000	5.0E-03	2.1E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-05	No	No
	5500	2.0E-03	8.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.3E-06	No	No
	8000	1.0E-03	4.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.2E-06	No	No
	12000	5.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-06	No	No
	24000	2.0E-04	8.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.3E-07	No	No
	40000	1.0E-04	4.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3500	1.0E-02	5.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	2.2E-01	No	No
	4500	5.0E-03	2.8E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	1.1E-01	No	No
	6500	2.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	4.3E-02	No	No
	8500	1.0E-03	5.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	2.2E-02	No	No
	12500	5.0E-04	2.8E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	1.1E-02	No	No
	22500	2.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	4.3E-03	No	No
	35500	1.0E-04	5.5E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	2.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	8.4E-06	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.1E-02	No	No
	8500	4.2E-06	7.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	5.3E-03	No	No
	14000	1.7E-06	2.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.1E-03	No	No
	22000	8.4E-07	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.1E-03	No	No
	35500	4.2E-07	7.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	5.3E-04	No	No
	50000+	1.7E-07	2.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.1E-04	No	No
	50000++	8.4E-08	1.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	4.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.2E-05	No	No
	8500	5.0E-03	2.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-05	No	No
	14000	2.0E-03	8.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.3E-06	No	No
	22000	1.0E-03	4.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.2E-06	No	No
	35500	5.0E-04	2.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-06	No	No
	50000+	2.0E-04	8.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.3E-07	No	No
	50000++	1.0E-04	4.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.2E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	5.5E-06	60	0.1	16	16	160	3.75	2.6E-05	2.7E-03	2.2E-01	No	No
	5000	5.0E-03	2.8E-06	60	0.1	16	16	160	3.75	2.6E-05	1.3E-03	1.1E-01	No	No
	9000	2.0E-03	1.1E-06	60	0.1	16	16	160	3.75	2.6E-05	5.3E-04	4.3E-02	No	No
	14000	1.0E-03	5.5E-07	60	0.1	16	16	160	3.75	2.6E-05	2.7E-04	2.2E-02	No	No
	24000	5.0E-04	2.8E-07	60	0.1	16	16	160	3.75	2.6E-05	1.3E-04	1.1E-02	No	No
	50000	2.0E-04	1.1E-07	60	0.1	16	16	160	3.75	2.6E-05	5.3E-05	4.3E-03	No	No
	50000+	1.0E-04	5.5E-08	60	0.1	16	16	160	3.75	2.6E-05	2.7E-05	2.2E-03	No	No
	*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
	**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion	7500	8.4E-06	1.4E-04	17.6	22	16	16	1600	1.10	1.4E-02	7.6E-06	1.1E-02	No	No
	10000	4.2E-06	7.2E-05	17.6	22	16	16	1600	1.10	1.4E-02	3.8E-06	5.3E-03	No	No
	18000	1.7E-06	2.9E-05	17.6	22	16	16	1600	1.10	1.4E-02	1.5E-06	2.1E-03	No	No
	30000	8.4E-07	1.4E-05	17.6	22	16	16	1600	1.10	1.4E-02	7.6E-07	1.1E-03	No	No
	50000	4.2E-07	7.2E-06	17.6	22	16	16	1600	1.10	1.4E-02	3.8E-07	5.3E-04	No	No
	50000+	1.7E-07	2.9E-06	17.6	22	16	16	1600	1.10	1.4E-02	1.5E-07	2.1E-04	No	No
	50000++	8.4E-08	1.4E-06	17.6	22	16	16	1600	1.10	1.4E-02	7.6E-08	1.1E-04	No	No
	*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
	**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Dermal Absorption	7500	1.0E-02	2.0E-02	4.3E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	3.2E-05	No	No
	10000	5.0E-03	2.0E-02	2.1E-05	2	216	16	160	0.13	1.4E+00	4.0E-02	1.6E-05	No	No
	18000	2.0E-03	2.0E-02	8.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	6.3E-06	No	No
	30000	1.0E-03	2.0E-02	4.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	3.2E-06	No	No
	50000	5.0E-04	2.0E-02	2.1E-06	2	216	16	160	0.13	1.4E+00	4.0E-03	1.6E-06	No	No
	50000+	2.0E-04	2.0E-02	8.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	6.3E-07	No	No
	50000++	1.0E-04	2.0E-02	4.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	3.2E-07	No	No
	*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
	**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	3.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E-03	No	Yes
	4000	5.0E-03	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.4E-01	No	No
	4000	2.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.6E-01	No	No
	5000	1.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.6E-05	1.3E-01	No	No
	5000	5.0E-04	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.4E-02	No	No
	7000	2.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.6E-02	No	No
	9000	1.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	4000	8.4E-06	5.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	3.8E-02	No	No
	5000	4.2E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.9E-02	No	No
	6000	1.7E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.5E-03	No	No
	7500	8.4E-07	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.8E-03	No	No
	9500	4.2E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.9E-03	No	No
	14500	1.7E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.5E-04	No	No
	20000	8.4E-08	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.8E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No	No
	5000	5.0E-03	7.6E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
	6000	2.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No	No
	7500	1.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No	No
	9500	5.0E-04	7.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No	No
	14500	2.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No	No
	20000	1.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	3.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No
	3000	5.0E-03	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.4E-01	No
	3000	2.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.6E-01	No
	4500	1.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.3E-01	No
	6500	5.0E-04	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.4E-02	No
	8500	2.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.6E-02	No
	14000	1.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	8.4E-06	5.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.8E-02	No
	4000	4.2E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.9E-02	No
	5000	1.7E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.5E-03	No
	8500	8.4E-07	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.8E-03	No
	12000	4.2E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.9E-03	No
	24000	1.7E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.5E-04	No
	40000	8.4E-08	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.8E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No
	4000	5.0E-03	7.6E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No
	5000	2.0E-03	3.1E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No
	8500	1.0E-03	1.5E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No
	12000	5.0E-04	7.6E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No
	24000	2.0E-04	3.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No
	40000	1.0E-04	1.5E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

American robin robin risk, OPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	3.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No
	3000	5.0E-03	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.4E-01	No
	4500	2.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.6E-01	No
	6000	1.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.3E-01	No
	9500	5.0E-04	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.4E-02	No
	16500	2.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.6E-02	No
	26500	1.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	8.4E-06	5.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.8E-02	No
	8500	4.2E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.9E-02	No
	14500	1.7E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.5E-03	No
	22000	8.4E-07	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.8E-03	No
	35500	4.2E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.9E-03	No
	50000+	1.7E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.5E-04	No
	50000++	8.4E-08	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.8E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	1.5E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-04	No
	8500	5.0E-03	7.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No
	14500	2.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No
	22000	1.0E-03	1.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No
	35500	5.0E-04	7.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No
	50000+	2.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No
	50000++	1.0E-04	1.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category D

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	1.3E+00	No	Yes
4000	5.0E-03	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	6.4E-01	No	No
7000	2.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	2.8E-01	No	No
10000	1.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	1.3E-01	No	No
16000	5.0E-04	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	6.4E-02	No	No
30000	2.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	2.8E-02	No	No
50000	1.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	1.3E-02	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	8.4E-06	5.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.8E-02	No	No
10000	4.2E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.9E-02	No	No
18000	1.7E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	7.5E-03	No	No
30000	8.4E-07	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.8E-03	No	No
50000	4.2E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.9E-03	No	No
50000+	1.7E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	7.5E-04	No	No
50000++	8.4E-08	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.8E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	9.0E-02	1.1E-04	No	No
10000	5.0E-03	7.6E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-05	No	No
18000	2.0E-03	3.1E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-05	No	No
30000	1.0E-03	1.5E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-05	No	No
50000	5.0E-04	7.6E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-06	No	No
50000+	2.0E-04	3.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-06	No	No
50000++	1.0E-04	1.5E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-06	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	6.4E-01	No	No
	4000	5.0E-03	8.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	3.2E-01	No	No
	4000	2.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.3E-01	No	No
	5000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	6.4E-02	No	No
	5000	5.0E-04	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	3.2E-02	No	No
	7000	2.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.3E-02	No	No
9000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	6.4E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	4000	8.4E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.9E-02	No	No
	5000	4.2E-06	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	9.4E-03	No	No
	6000	1.7E-06	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.8E-03	No	No
	7500	8.4E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.9E-03	No	No
	9500	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	9.4E-04	No	No
	14500	1.7E-07	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.8E-04	No	No
20000	8.4E-08	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.9E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.7E-05	No	No
	5000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.8E-05	No	No
	6000	2.0E-03	4.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	7500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.7E-06	No	No
	9500	5.0E-04	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.8E-06	No	No
	14500	2.0E-04	4.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
20000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.7E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.0E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	6.4E-01	No	No
3000	5.0E-03	8.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	3.2E-01	No	No
3000	2.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.3E-01	No	No
4500	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	6.4E-02	No	No
6500	5.0E-04	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	3.2E-02	No	No
9500	2.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.3E-02	No	No
14000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	6.4E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	8.4E-08	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.9E-02	No	No
4000	4.2E-08	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	9.4E-03	No	No
5000	1.7E-08	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.8E-03	No	No
8500	8.4E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.9E-03	No	No
12000	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	9.4E-04	No	No
24000	1.7E-07	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.8E-04	No	No
40000	8.4E-08	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	2.0E-02	7.6E-05	2	16	160	0.13	1.4E-00	1.4E-00	8.0E-02	5.7E-05	No	No
4000	5.0E-03	2.0E-02	3.8E-05	2	16	160	0.13	1.4E-00	1.4E-00	4.0E-02	2.8E-05	No	No
5000	2.0E-03	2.0E-02	1.5E-05	2	16	160	0.13	1.4E-00	1.4E-00	1.6E-02	1.1E-05	No	No
8500	1.0E-03	2.0E-02	7.6E-06	2	16	160	0.13	1.4E-00	1.4E-00	8.0E-03	5.7E-06	No	No
12000	5.0E-04	2.0E-02	3.8E-06	2	16	160	0.13	1.4E-00	1.4E-00	4.0E-03	2.8E-06	No	No
24000	2.0E-04	2.0E-02	1.5E-06	2	16	160	0.13	1.4E-00	1.4E-00	1.6E-03	1.1E-06	No	No
40000	1.0E-04	2.0E-02	7.6E-07	2	16	160	0.13	1.4E-00	1.4E-00	8.0E-04	5.7E-07	No	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

American robin risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	6.4E-01	No	No
	3000	5.0E-03	8.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	3.2E-01	No	No
	4500	2.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.3E-01	No	No
	6000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	6.4E-02	No	No
	9500	5.0E-04	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	3.2E-02	No	No
	16500	2.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.3E-02	No	No
26500	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	6.4E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	8500	8.4E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.9E-02	No	No
	8500	4.2E-06	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	9.4E-03	No	No
	14500	1.7E-06	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.8E-03	No	No
	22000	8.4E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.9E-03	No	No
	35500	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	9.4E-04	No	No
	50000+	1.7E-07	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.8E-04	No	No
50000++	8.4E-08	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.9E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	8500	1.0E-02	2.0E-02	7.6E-05	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.7E-05	No	No
	8500	5.0E-03	2.0E-02	3.8E-05	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.8E-05	No	No
	14500	2.0E-03	2.0E-02	1.5E-05	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No
	22000	1.0E-03	2.0E-02	7.6E-06	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.7E-06	No	No
	35500	5.0E-04	2.0E-02	3.8E-06	2	216	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.8E-06	No	No
	50000+	2.0E-04	2.0E-02	1.5E-06	2	216	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No
50000++	1.0E-04	2.0E-02	7.6E-07	2	216	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.7E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category D

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Chronic Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect														
Inhalation																											
3000	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	6.4E-01	No	No														
4000	5.0E-03	8.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	3.2E-01	No	No														
7000	2.0E-03	3.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.3E-01	No	No														
10000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	6.4E-02	No	No														
16000	5.0E-04	8.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	3.2E-02	No	No														
30000	2.0E-04	3.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.3E-02	No	No														
50000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	6.4E-03	No	No														
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																											
Ingestion																											
7500	8.4E-06	2.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.9E-02	No	No														
10000	4.2E-06	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	9.4E-03	No	No														
18000	1.7E-06	5.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.8E-03	No	No														
30000	8.4E-07	2.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.9E-03	No	No														
50000	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	9.4E-04	No	No														
50000+	1.7E-07	5.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.8E-04	No	No														
50000++	8.4E-08	2.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.9E-04	No	No														
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramschari 1958																											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																											
Dermal Absorption																											
7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.7E-05	No	No														
10000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.8E-05	No	No														
18000	2.0E-03	4.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No	No														
30000	1.0E-03	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.7E-06	No	No														
50000	5.0E-04	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.8E-06	No	No														
50000+	2.0E-04	4.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No	No														
50000++	1.0E-04	2.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.7E-07	No	No														
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																											

Mobile Smoke - Cannon Range (Mush Puddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.8E-05
5000	5.0E-03	1.0E-05	60	0.1	16	160	3.75	6.3E-04	1.3E-05
6000	2.0E-03	4.1E-06	60	0.1	16	160	3.75	6.3E-04	5.3E-06
7500	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-06
9000	5.0E-04	1.0E-06	60	0.1	16	160	3.75	6.3E-04	1.3E-06
14500	2.0E-04	4.1E-07	60	0.1	16	160	3.75	6.3E-04	5.3E-07
20000	1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-07
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	8.4E-06	3.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
5000	4.2E-06	1.6E-04	17.6	22	16	1600	1.10	1.4E-02	7.6E-06
6000	1.7E-06	6.5E-05	17.6	22	16	1600	1.10	1.4E-02	3.8E-06
7500	8.4E-07	3.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.5E-06
9000	4.2E-07	1.6E-05	17.6	22	16	1600	1.10	1.4E-02	7.6E-07
14500	1.7E-07	6.5E-06	17.6	22	16	1600	1.10	1.4E-02	3.8E-07
20000	8.4E-08	3.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.5E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramm et al. 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.0E-02	8.5E-05	2	216	16	160	0.13	1.4E+00
5000	5.0E-03	2.0E-02	4.8E-05	2	216	16	160	0.13	1.4E+00
6000	2.0E-03	2.0E-02	1.9E-05	2	216	16	160	0.13	1.4E+00
7500	1.0E-03	2.0E-02	9.5E-06	2	216	16	160	0.13	1.4E+00
9000	5.0E-04	2.0E-02	4.8E-06	2	216	16	160	0.13	1.4E+00
14500	2.0E-04	2.0E-02	1.9E-06	2	216	16	160	0.13	1.4E+00
20000	1.0E-04	2.0E-02	9.5E-07	2	216	16	160	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.0E-01	No
	3000	5.0E-03	1.0E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.0E-01	No
	3000	2.0E-03	4.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.6E-01	No
	4500	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.0E-02	No
	6500	5.0E-04	1.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.0E-02	No
	9500	2.0E-04	4.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.6E-02	No
	14000	1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.0E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	8.4E-06	3.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.4E-02	No
	4000	4.2E-06	1.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No
	5000	1.7E-06	6.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	4.7E-03	No
	8500	8.4E-07	3.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.4E-03	No
	12000	4.2E-07	1.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No
	24000	1.7E-07	6.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	4.7E-04	No
	40000	8.4E-08	3.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.4E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.1E-05	No
	4000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.5E-05	No
	5000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No
	8500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No
	12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.5E-06	No
	24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No
	40000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	2500	1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.0E-01	No
	3000	5.0E-03	1.0E-05	60	0.1	16	160	160	6.3E-04	2.6E-05	1.3E-03	4.0E-01	No
	4500	2.0E-03	4.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.6E-01	No
	6000	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.0E-02	No
	9500	5.0E-04	1.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.0E-02	No
	16500	2.0E-04	4.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.6E-02	No
	26500	1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.0E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	6500	8.4E-06	3.2E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.4E-02	No
	8500	4.2E-06	1.6E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No
	14500	1.7E-06	6.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	4.7E-03	No
	22000	8.4E-07	3.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.4E-03	No
	35500	4.2E-07	1.6E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No
	50000+	1.7E-07	6.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	4.7E-04	No
	50000++	8.4E-08	3.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.4E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	6500	1.0E-02	9.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.1E-05	No
	8500	5.0E-03	4.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.5E-05	No
	14500	2.0E-03	1.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.4E-05	No
	22000	1.0E-03	9.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.1E-06	No
	35500	5.0E-04	4.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.5E-06	No
	50000+	2.0E-04	1.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.4E-06	No
	50000++	1.0E-04	9.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.1E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	4000	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	9.6E-01	No
	5000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.8E-01	No
	6000	2.0E-03	4.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.9E-01	No
	5000	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	9.6E-02	No
	5000	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	9.6E-02	No
	7000	2.0E-04	4.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.8E-02	No
	9000	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.9E-02	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	4000	8.4E-06	3.8E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	2.8E-02	No
	5000	4.2E-06	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	1.4E-02	No
	6000	1.7E-06	7.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.6E-03	No
	7500	8.4E-07	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	2.8E-03	No
	9500	4.2E-07	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	1.4E-03	No
	14500	1.7E-07	7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.6E-04	No
	20000	8.4E-08	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	2.8E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	4000	1.0E-02	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.5E-05	No
	5000	5.0E-03	5.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.2E-05	No
	6000	2.0E-03	2.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-05	No
	7500	1.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.5E-06	No
	9500	5.0E-04	5.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.2E-06	No
	14500	2.0E-04	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-06	No
	20000	1.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	9.6E-01	No	No
4000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.8E-01	No	No
5000	2.0E-03	4.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.9E-01	No	No
6500	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	9.6E-02	No	No
8500	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.8E-02	No	No
9500	2.0E-04	4.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.9E-02	No	No
14000	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	9.6E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
3000	8.4E-06	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.8E-02	No	No
4000	4.2E-06	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.4E-02	No	No
5000	1.7E-06	7.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.6E-03	No	No
8500	8.4E-07	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.8E-03	No	No
12000	4.2E-07	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.4E-03	No	No
24000	1.7E-07	7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.6E-04	No	No
40000	8.4E-08	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.8E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1959													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.5E-05	No	No
4000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.2E-05	No	No
5000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-05	No	No
8500	1.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.5E-06	No	No
12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.2E-06	No	No
24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-06	No	No
40000	1.0E-04	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield											
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient
Inhalation											
2500	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	9.6E-01
3000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.8E-01
4500	2.0E-03	4.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.9E-01
6000	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	9.6E-02
9500	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.8E-02
16500	2.0E-04	4.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.9E-02
26500	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	9.6E-03
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992											
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient
Ingestion											
8500	8.4E-06	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.8E-02
8500	4.2E-06	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.4E-02
14500	1.7E-06	7.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.6E-03
22000	8.4E-07	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.8E-03
35500	4.2E-07	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.4E-03
50000+	1.7E-07	7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.6E-04
50000++	8.4E-08	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.8E-04
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammieri 1959											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989											
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient
Dermal Absorption											
6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.5E-05
8500	5.0E-03	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.2E-05
14500	2.0E-03	5.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-05
22000	1.0E-03	2.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.5E-06
35500	5.0E-04	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.2E-06
50000+	2.0E-04	5.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-06
50000++	1.0E-04	2.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.5E-07
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.5E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	9.8E-01	No
	4000	5.0E-03	1.2E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.8E-01	No
	7000	2.0E-03	4.9E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.9E-01	No
	10000	1.0E-03	2.5E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	9.8E-02	No
	16000	5.0E-04	1.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.8E-02	No
	30000	2.0E-04	4.9E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.9E-02	No
	50000	1.0E-04	2.5E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	9.8E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	8.4E-06	3.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.9E-06	2.8E-02	No
	10000	4.2E-06	1.9E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	1.4E-02	No
	18000	1.7E-06	7.8E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	5.6E-03	No
	30000	8.4E-07	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.9E-07	2.8E-03	No
	50000	4.2E-07	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	1.4E-03	No
	50000+	1.7E-07	7.8E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	5.6E-04	No
	50000++	8.4E-08	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.9E-08	2.8E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramschari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	1.1E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	8.5E-05	No
	10000	5.0E-03	5.7E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	4.2E-05	No
	18000	2.0E-03	2.3E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.7E-05	No
	30000	1.0E-03	1.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	8.5E-06	No
	50000	5.0E-04	5.7E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	4.2E-06	No
	50000+	2.0E-04	2.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.7E-06	No
	50000++	1.0E-04	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	8.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Environmentally Preferred Training Method

American robin risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	7.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	2.8E-02	No	No
	4000	5.0E-03	3.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	1.4E-02	No	No
	5000	2.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	5.6E-03	No	No
	5000	1.0E-03	7.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	2.8E-03	No	No
	6000	5.0E-04	3.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	1.4E-03	No	No
	8000	2.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	5.6E-04	No	No
	12000	1.0E-04	7.2E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	2.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)						
Ingestion														
4000	8.4E-06	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.4E-03	No	No	
5000	4.2E-06	9.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	6.8E-04	No	No	
6000	1.7E-06	3.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.7E-04	No	No	
7000	8.4E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.4E-04	No	No	
9500	4.2E-07	9.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	6.8E-05	No	No	
14000	1.7E-07	3.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.7E-05	No	No	
20000	8.4E-08	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.4E-05	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)					
Dermal Absorption														
4000	1.0E-02	2.0E-02	5.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.1E-06	No	No
5000	5.0E-03	2.0E-02	2.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-06	No	No
6000	2.0E-03	2.0E-02	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.2E-07	No	No
7000	1.0E-03	2.0E-02	5.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.1E-07	No	No
9500	5.0E-04	2.0E-02	2.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-07	No	No
14000	2.0E-04	2.0E-02	1.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.2E-08	No	No
20000	1.0E-04	2.0E-02	5.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	7.2E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	2.8E-02	No	No
	3500	5.0E-03	3.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	1.4E-02	No	No
	4000	2.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	5.6E-03	No	No
	5500	1.0E-03	7.2E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	2.8E-03	No	No
	7500	5.0E-04	3.6E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	1.4E-03	No	No
	12000	2.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	5.6E-04	No	No
	18500	1.0E-04	7.2E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	2.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	3500	8.4E-08	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.4E-03	No	No
	4000	4.2E-08	9.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	6.8E-04	No	No
	5500	1.7E-08	3.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.7E-04	No	No
	8000	8.4E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.4E-04	No	No
	12000	4.2E-07	9.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	6.8E-05	No	No
	24000	1.7E-07	3.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.7E-05	No	No
	40000	8.4E-08	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.4E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1969														
Dermal Absorption														
	3500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.1E-08	No	No
	4000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-08	No	No
	5500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.2E-07	No	No
	8000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.1E-07	No	No
	12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-07	No	No
	24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.2E-08	No	No
	40000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.1E-08	No	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1969														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3500	1.0E-02	7.2E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	2.8E-02	No	No
	4500	5.0E-03	3.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	1.4E-02	No	No
	5500	2.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	5.6E-03	No	No
	6500	1.0E-03	7.2E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	2.8E-03	No	No
	12500	5.0E-04	3.6E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	1.4E-03	No	No
	22500	2.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	5.6E-04	No	No
	35500	1.0E-04	7.2E-09	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	2.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	6500	8.4E-06	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.4E-03	No	No
	8500	4.2E-06	9.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	6.8E-04	No	No
	14000	1.7E-06	3.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.7E-04	No	No
	22000	8.4E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.4E-04	No	No
	35500	4.2E-07	9.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	6.8E-05	No	No
	50000+	1.7E-07	3.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.7E-05	No	No
	50000++	8.4E-08	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.4E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramschler 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	6500	1.0E-02	5.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.1E-06	No	No
	8500	5.0E-03	2.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-06	No	No
	14000	2.0E-03	1.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.2E-07	No	No
	22000	1.0E-03	5.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.1E-07	No	No
	35500	5.0E-04	2.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-07	No	No
	50000+	2.0E-04	1.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.2E-08	No	No
	50000++	1.0E-04	5.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	7.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	2.8E-02	No	No
	5000	5.0E-03	3.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	1.4E-02	No	No
	9000	2.0E-03	1.4E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	5.6E-03	No	No
	14000	1.0E-03	7.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	2.8E-03	No	No
	24000	5.0E-04	3.6E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	1.4E-03	No	No
	50000	2.0E-04	1.4E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	5.6E-04	No	No
	50000+	1.0E-04	7.2E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	2.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shim et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	7500	8.4E-06	1.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	1.4E-03	No	No
	10000	4.2E-06	9.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	6.8E-04	No	No
	18000	1.7E-06	3.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.7E-04	No	No
	30000	8.4E-07	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	1.4E-04	No	No
	50000	4.2E-07	9.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	6.8E-05	No	No
	50000+	1.7E-07	3.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.7E-05	No	No
	50000++	8.4E-08	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	1.4E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	4.1E-06	No	No
	10000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.0E-06	No	No
	18000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	8.2E-07	No	No
	30000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.1E-07	No	No
	50000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.0E-07	No	No
	50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	8.2E-08	No	No
	50000++	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	Distance (m)													
		1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.3E-01	No	No
	4000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.1E-01	No	No
	4000	2.0E-03	4.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.7E-01	No	No
	5000	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.3E-02	No	No
	5000	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.1E-02	No	No
	7000	2.0E-04	4.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.7E-02	No	No
Ingestion	Distance (m)													
		1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.3E-03	No	No
	4000	5.0E-05	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-05	4.1E-03	No	No
	4000	2.0E-05	4.2E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-06	1.7E-03	No	No
	5000	1.0E-05	2.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-06	8.3E-04	No	No
	5000	5.0E-06	1.1E-08	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-06	4.1E-04	No	No
	7000	2.0E-06	4.2E-09	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-07	1.7E-04	No	No
Dermal Absorption	Distance (m)													
		1.0E-02	9.8E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.3E-05	No	No
	4000	5.0E-03	4.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No	No
	5000	2.0E-03	2.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	6000	1.0E-03	9.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.3E-06	No	No
	7500	5.0E-04	4.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No	No
	14500	2.0E-04	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990 **Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989	Distance (m)													
		1.0E-04	9.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.3E-07	No	No
	4000	5.0E-05	4.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-04	3.6E-07	No	No
	5000	2.0E-05	2.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-04	1.5E-07	No	No
	6000	1.0E-05	9.8E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-05	7.3E-08	No	No
	7500	5.0E-06	4.9E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-05	3.6E-08	No	No
	14500	2.0E-06	2.0E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-05	1.5E-08	No	No

American robin risk, EPTM

Mobile Smoke - Musgrave Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.4E-01	No
	3000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.2E-01	No
	3000	2.0E-03	4.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.7E-01	No
	4500	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.4E-02	No
	6500	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.2E-02	No
	9500	2.0E-04	4.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.7E-02	No
	14000	1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.4E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	8.4E-06	3.4E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.5E-02	No
	4000	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No
	5000	1.7E-06	6.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	4.9E-03	No
	8500	8.4E-07	3.4E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.5E-03	No
	12000	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No
	24000	1.7E-07	6.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	4.9E-04	No
	40000	8.4E-08	3.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.5E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.4E-05	No
	4000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.7E-05	No
	5000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No
	8500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.4E-06	No
	12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.7E-06	No
	24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No
	40000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.4E-07	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category C

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
2500	1.0E-02	2.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.3E-01	No	No
3000	5.0E-03	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.1E-01	No	No
4500	2.0E-03	4.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.7E-01	No	No
6000	1.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.3E-02	No	No
8500	5.0E-04	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.1E-02	No	No
16500	2.0E-04	4.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.7E-02	No	No
26500	1.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.3E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
6500	8.4E-06	3.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	2.4E-02	No	No
8500	4.2E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	1.2E-02	No	No
14500	1.7E-06	6.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	4.9E-03	No	No
22000	8.4E-07	3.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	2.4E-03	No	No
35500	4.2E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	1.2E-03	No	No
50000+	1.7E-07	6.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	4.9E-04	No	No
50000++	8.4E-08	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	2.4E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.3E-05	No	No
8500	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No	No
14500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
22000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.3E-06	No	No
35500	5.0E-04	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No	No
50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
50000++	1.0E-04	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Musgrave Hollow													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	8.3E-01	No	No
	4000	5.0E-03	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	4.1E-01	No	No
	7000	2.0E-03	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.7E-01	No	No
	10000	1.0E-03	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	8.3E-02	No	No
	16000	5.0E-04	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	4.1E-02	No	No
	30000	2.0E-04	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.7E-02	No	No
50000	1.0E-04	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	8.3E-03	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	8.4E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	2.4E-02	No	No
	10000	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.2E-02	No	No
	18000	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	4.9E-03	No	No
	30000	8.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	2.4E-03	No	No
	50000	4.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-03	No	No
	50000+	1.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	4.9E-04	No	No
50000++	8.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	2.4E-04	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.3E-05	No	No
	10000	5.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.6E-05	No	No
	18000	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-05	No	No
	30000	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.3E-06	No	No
	50000	5.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.6E-06	No	No
	50000+	2.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-06	No	No
50000++	1.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	7.3E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

American robin risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
4000	1.0E-02	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
5000	5.0E-03	5.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
6000	2.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
7500	1.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
9500	5.0E-04	5.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
7000	2.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
9000	1.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
4000	8.4E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
5000	4.2E-06	8.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
6000	3.3E-05	3.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
7500	8.4E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
9500	4.2E-07	8.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
14500	1.7E-07	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
20000	8.4E-08	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1959									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
5000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
6000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
7500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
9500	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
14500	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
20000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

American robin risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	3000	1.0E-02	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	4.1E-01	No
	3000	5.0E-03	5.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.1E-01	No
	3000	2.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	8.3E-02	No
	4500	1.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	4.1E-02	No
	6500	5.0E-04	5.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.1E-02	No
	9500	2.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	8.3E-03	No
	14000	1.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	4.1E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	3000	8.4E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.2E-02	No
	4000	4.2E-06	8.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	6.1E-03	No
	5000	1.7E-06	3.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.4E-03	No
	8500	8.4E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.2E-03	No
	12000	4.2E-07	8.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	6.1E-04	No
	24000	1.7E-07	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.4E-04	No
	40000	8.4E-08	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.2E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brannacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	3000	1.0E-02	4.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.6E-05	No
	4000	5.0E-03	2.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.8E-05	No
	5000	2.0E-03	9.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	7.3E-06	No
	8500	1.0E-03	4.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.6E-06	No
	12000	5.0E-04	2.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.8E-06	No
	24000	2.0E-04	9.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	7.3E-07	No
	40000	1.0E-04	4.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.6E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
2500	1.0E-02	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05
3000	5.0E-03	5.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
4500	2.0E-03	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
6000	1.0E-03	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05
9500	5.0E-04	5.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
16500	2.0E-04	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
26500	1.0E-04	1.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Ingestion									
8500	8.4E-06	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	7.6E-06
8500	4.2E-06	8.3E-05	17.6	22	16	1600	1.10	1.4E-02	3.8E-06
14500	1.7E-06	3.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.5E-06
22000	8.4E-07	1.7E-05	17.6	22	16	1600	1.10	1.4E-02	7.6E-07
35500	4.2E-07	8.3E-06	17.6	22	16	1600	1.10	1.4E-02	3.8E-07
50000+	1.7E-07	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.5E-07
50000++	8.4E-08	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	7.6E-08
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)
Dermal Absorption									
6500	1.0E-02	4.9E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
8500	5.0E-03	2.5E-05	2	216	16	160	0.13	1.4E+00	4.0E-02
14500	2.0E-03	9.9E-06	2	216	16	160	0.13	1.4E+00	1.6E-02
22000	1.0E-03	4.9E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
35500	5.0E-04	2.5E-06	2	216	16	160	0.13	1.4E+00	4.0E-03
50000+	2.0E-04	9.9E-07	2	216	16	160	0.13	1.4E+00	1.6E-03
50000++	1.0E-04	4.9E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Chronic Intake Value (g/m ³)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	1.0E-05	1.1E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	4.1E-01	No	No
	4000	5.0E-03	5.3E-06	5.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.1E-01	No	No
	7000	2.0E-03	2.1E-06	2.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	8.3E-02	No	No
	10000	1.0E-03	1.1E-06	1.1E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	4.1E-02	No	No
	16000	5.0E-04	5.3E-07	5.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.1E-02	No	No
	30000	2.0E-04	2.1E-07	2.1E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	8.3E-03	No	No
Ingestion	7500	8.4E-06	1.7E-04	1.7E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.2E-02	No	No
	10000	4.2E-06	8.3E-05	8.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	6.1E-03	No	No
	18000	1.7E-06	3.3E-05	3.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	2.4E-03	No	No
	30000	8.4E-07	1.7E-06	1.7E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.2E-03	No	No
	50000	4.2E-07	8.3E-06	8.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	6.1E-04	No	No
	50000++	1.7E-07	3.3E-06	3.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	2.4E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effects are gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption	7500	1.0E-02	2.0E-02	4.9E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.6E-05	No	No
	10000	5.0E-03	2.0E-02	2.5E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.8E-05	No	No
	18000	2.0E-03	2.0E-02	9.8E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	7.3E-06	No	No
	30000	1.0E-03	2.0E-02	4.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.6E-06	No	No
	50000	5.0E-04	2.0E-02	2.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.8E-06	No	No
	50000++	2.0E-04	2.0E-02	9.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	7.3E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
4000	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.2E-01	No	No
5000	5.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.6E-01	No	No
6000	2.0E-03	2.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No	No
7000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.2E-02	No	No
8000	5.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.6E-02	No	No
9000	2.0E-04	2.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No	No
	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
4000	8.4E-06	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.5E-02	No	No
5000	4.2E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	7.6E-03	No	No
6000	1.7E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.0E-03	No	No
7000	8.4E-07	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.5E-03	No	No
8000	4.2E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	7.6E-04	No	No
9000	1.7E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.0E-04	No	No
14500	8.4E-08	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-04	No	No
20000													
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
4000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.6E-05	No	No
5000	5.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.3E-05	No	No
6000	2.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	9.1E-06	No	No
7000	1.0E-03	6.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.6E-06	No	No
8000	5.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.3E-06	No	No
9000	2.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	9.1E-07	No	No
14500	1.0E-04	6.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.6E-07	No	No
20000													
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Puddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation	3000	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.2E-01	No
	3000	5.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.6E-01	No
	3000	2.0E-03	2.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No
	4500	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.2E-02	No
	6500	5.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.6E-02	No
	9500	2.0E-04	2.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No
	14000	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.2E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion	3000	8.4E-06	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.5E-02	No
	4000	4.2E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	7.6E-03	No
	5000	1.7E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-06	3.0E-03	No
	8500	8.4E-07	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.5E-03	No
	12000	4.2E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	7.6E-04	No
	24000	1.7E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.9E-07	3.0E-04	No
	40000	8.4E-08	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption	3000	1.0E-02	6.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.8E-02	No
	4000	5.0E-03	3.1E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.3E-05	No
	5000	2.0E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	9.1E-06	No
	8500	1.0E-03	6.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.8E-06	No
	12000	5.0E-04	3.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.3E-06	No
	24000	2.0E-04	1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	9.1E-07	No
	40000	1.0E-04	6.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.8E-07	No
*Acute critical effect is slight of moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Cannon Range (Mush Puddle Hollow)														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	2500	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	5.2E-01	No	No
	3000	5.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	2.6E-01	No	No
	4500	2.0E-03	2.7E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.0E-01	No	No
	6000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	5.2E-02	No	No
	9500	5.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	2.6E-02	No	No
	16500	2.0E-04	2.7E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.0E-02	No	No
	26500	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	5.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	6500	8.4E-06	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-02	No	No
	8500	4.2E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-08	7.6E-03	No	No
	14500	1.7E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.0E-03	No	No
	22000	8.4E-07	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.5E-03	No	No
	35500	4.2E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	7.6E-04	No	No
	50000	1.7E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.0E-04	No	No
	50000++	8.4E-08	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	6500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-02	4.0E-02	4.6E-05	No	No
	8500	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	4.0E-02	2.3E-05	2.3E-05	No	No
	14500	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.6E-02	9.1E-06	9.1E-06	No	No
	22000	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-03	4.6E-06	4.6E-06	No	No
	35500	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	4.0E-03	2.3E-06	2.3E-06	No	No
	50000+	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.6E-03	9.1E-07	9.1E-07	No	No
	50000++	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	8.0E-04	4.6E-07	4.6E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	1.3E-05	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-03	5.2E-01	No
	4000	5.0E-03	6.6E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-03	2.8E-01	No
	7000	2.0E-03	2.7E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-04	1.0E-01	No
	10000	1.0E-03	1.3E-06	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-04	5.2E-02	No
	16000	5.0E-04	6.6E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	1.3E-04	2.6E-02	No
	30000	2.0E-04	2.7E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	5.3E-05	1.0E-02	No
	50000	1.0E-04	1.3E-07	60	0.1	16	160	3.75	6.3E-04	2.8E-05	2.7E-05	5.2E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	7500	8.4E-06	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	1.5E-02	No
	10000	4.2E-06	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	7.6E-03	No
	18000	1.7E-06	4.2E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.0E-03	No
	30000	8.4E-07	2.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	1.5E-03	No
	50000	4.2E-07	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	7.6E-04	No
	50000+	1.7E-07	4.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.0E-04	No
	50000++	8.4E-08	2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramechani 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	7500	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.8E-02	No
	10000	5.0E-03	1.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.3E-05	No
	18000	2.0E-03	4.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	9.1E-06	No
	30000	1.0E-03	2.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.6E-06	No
	50000	5.0E-04	1.0E-03	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.3E-06	No
	50000+	2.0E-04	4.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	9.1E-07	No
	50000++	1.0E-04	2.0E-04	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.6E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	4000	1.0E-02	1.6E-05	60	0.1	16		160	3.75	6.3E-04	2.7E-03	6.2E-01	No	No
	4000	5.0E-03	8.0E-06	60	0.1	16		160	3.75	6.3E-04	1.3E-03	3.1E-01	No	No
	4000	2.0E-03	3.2E-06	60	0.1	16		160	3.75	6.3E-04	2.6E-05	5.3E-04	No	No
	5000	1.0E-03	1.6E-06	60	0.1	16		160	3.75	6.3E-04	2.6E-05	2.7E-04	No	No
	5000	5.0E-04	8.0E-07	60	0.1	16		160	3.75	6.3E-04	2.6E-05	1.3E-04	No	No
	7000	2.0E-04	3.2E-07	60	0.1	16		160	3.75	6.3E-04	2.6E-05	5.3E-05	No	No
	9000	1.0E-04	1.6E-07	60	0.1	16		160	3.75	6.3E-04	2.6E-05	2.7E-05	No	No
	*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	4000	6.4E-06	2.5E-04	17.6	22	16		1600	1.10	1.4E-02	7.6E-06	1.8E-02	No	No
	5000	4.2E-06	1.3E-04	17.6	22	16		1600	1.10	1.4E-02	3.8E-06	9.1E-03	No	No
	6000	1.7E-06	5.0E-05	17.6	22	16		1600	1.10	1.4E-02	1.5E-06	3.6E-03	No	No
	7500	8.4E-07	2.5E-05	17.6	22	16		1600	1.10	1.4E-02	7.6E-07	1.8E-03	No	No
	9500	4.2E-07	1.3E-05	17.6	22	16		1600	1.10	1.4E-02	3.8E-07	9.1E-04	No	No
	14500	1.7E-07	5.0E-06	17.6	22	16		1600	1.10	1.4E-02	1.5E-07	3.6E-04	No	No
	20000	8.4E-08	2.5E-06	17.6	22	16		1600	1.10	1.4E-02	7.6E-08	1.8E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	4000	1.0E-02	2.0E-02	7.4E-05	2	216	16		160	0.13	8.0E-02	5.5E-05	No	No
	5000	5.0E-03	2.0E-02	3.7E-05	2	216	16		160	0.13	4.0E-02	2.7E-05	No	No
	6000	2.0E-03	2.0E-02	1.5E-05	2	216	16		160	0.13	1.6E-02	1.1E-05	No	No
	7500	1.0E-03	2.0E-02	7.4E-06	2	216	16		160	0.13	8.0E-03	5.5E-06	No	No
	9500	5.0E-04	2.0E-02	3.7E-06	2	216	16		160	0.13	4.0E-03	2.7E-06	No	No
	14500	2.0E-04	2.0E-02	1.5E-06	2	216	16		160	0.13	1.6E-03	1.1E-06	No	No
	20000	1.0E-04	2.0E-02	7.4E-07	2	216	16		160	0.13	8.0E-04	5.5E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babo Airfield													
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Inhalation													
	3000	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-03	6.2E-01	No
	3000	5.0E-03	8.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-03	3.1E-01	No
	3000	2.0E-06	3.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-04	1.2E-01	No
	4500	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-04	6.2E-02	No
	6500	5.0E-04	8.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	1.3E-04	3.1E-02	No
	9500	2.0E-04	3.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	5.3E-05	1.2E-02	No
	14000	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	2.7E-05	6.2E-03	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Ingestion													
	3000	8.4E-06	2.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-06	1.8E-02	No
	4000	4.2E-06	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-06	9.1E-03	No
	5000	1.7E-06	5.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	3.6E-03	No
	8500	8.4E-07	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	1.8E-03	No
	12000	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.9E-07	9.1E-04	No
	24000	1.7E-07	5.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	3.6E-04	No
	40000	8.4E-08	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	1.8E-04	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramacher 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic Effect
Dermal Absorption													
	3000	1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.5E-05	No
	4000	5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-05	No
	5000	2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.1E-05	No
	8500	1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.5E-06	No
	12000	5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-06	No
	24000	2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.1E-06	No
	40000	1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.5E-07	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield											
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Chronic Effect
Inhalation											
	2500	1.0E-02	1.6E-05	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	3000	5.0E-03	8.0E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	4500	2.0E-03	3.2E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	6000	1.0E-03	1.6E-06	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	9500	5.0E-04	8.0E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	18500	2.0E-04	3.2E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
	28500	1.0E-04	1.6E-07	60	0.1	16	160	3.75	6.3E-04	2.6E-05	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992											
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Chronic Effect
Ingestion											
	8500	8.4E-08	2.5E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	8500	4.2E-08	1.3E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	14500	1.7E-08	5.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	22000	8.4E-07	2.5E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	35500	4.2E-07	1.3E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	50000+	1.7E-07	5.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
	50000++	8.4E-08	2.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramm et al. 1958											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989											
	Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Effect
Dermal Absorption											
	8500	1.0E-02	2.0E-02	7.4E-05	2	216	16	160	0.13	1.4E+00	No
	8500	5.0E-03	2.0E-02	3.7E-05	2	216	16	160	0.13	1.4E+00	No
	14500	2.0E-03	2.0E-02	1.5E-05	2	216	16	160	0.13	1.4E+00	No
	22000	1.0E-03	2.0E-02	7.4E-06	2	216	16	160	0.13	1.4E+00	No
	35500	5.0E-04	2.0E-02	3.7E-06	2	216	16	160	0.13	1.4E+00	No
	50000+	2.0E-04	2.0E-02	1.5E-06	2	216	16	160	0.13	1.4E+00	No
	50000++	1.0E-04	2.0E-02	7.4E-07	2	216	16	160	0.13	1.4E+00	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	3000	1.0E-02	1.8E-05	60	0.1	16	16	3.75	6.3E-04
	4000	5.0E-03	8.0E-06	60	0.1	16	16	3.75	6.3E-04
	7000	2.0E-03	3.2E-06	60	0.1	16	16	3.75	6.3E-04
	10000	1.0E-03	1.6E-06	60	0.1	16	16	3.75	6.3E-04
	15000	5.0E-04	8.0E-07	60	0.1	16	16	3.75	6.3E-04
	30000	2.0E-04	3.2E-07	60	0.1	16	16	3.75	6.3E-04
	50000	1.0E-04	1.6E-07	60	0.1	16	16	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
	7500	8.4E-08	2.5E-04	17.6	22	16	16	1.10	1.4E-02
	10000	4.2E-08	1.3E-04	17.6	22	16	16	1.10	1.4E-02
	18000	1.7E-08	5.0E-05	17.6	22	16	16	1.10	1.4E-02
	30000	8.4E-07	2.5E-05	17.6	22	16	16	1.10	1.4E-02
	50000	4.2E-07	1.3E-05	17.6	22	16	16	1.10	1.4E-02
	50000+	1.7E-07	5.0E-06	17.6	22	16	16	1.10	1.4E-02
	50000++	8.4E-08	2.5E-06	17.6	22	16	16	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Branechar 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
	Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
	7500	1.0E-02	2.0E-02	2	216	16	16	0.13	1.4E+00
	10000	5.0E-03	3.7E-05	2	216	16	16	0.13	1.4E+00
	18000	2.0E-03	1.5E-05	2	216	16	16	0.13	1.4E+00
	30000	1.0E-03	7.4E-06	2	216	16	16	0.13	1.4E+00
	50000	5.0E-04	3.7E-06	2	216	16	16	0.13	1.4E+00
	50000+	2.0E-04	1.5E-06	2	216	16	16	0.13	1.4E+00
	50000++	1.0E-04	7.4E-07	2	216	16	16	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Appendix X
Selection of Receptors of Concern

APPENDIX X:

Selection of Receptors of Concern

X.I INTRODUCTION AND BACKGROUND

Selection of receptors is one of the most important stages of an Ecological Risk Assessment (ERA). These receptors are assessment endpoints, which are ecological values that are to be protected. Assessment endpoints are the focus of the ERA. In human health risk assessments, receptor selection is an easy task because there is only one species to consider as a receptor. Assessment of risks to appropriately selected receptors will adequately characterize risks, and provide information useful in managing risks. The EPA presents 3 potential criteria to use when selecting assessment endpoints for any Ecological Risk Assessment: ecological relevance, susceptibility to the known or potential stressors, and representation of management goals (EPA 1996). An endpoint has ecological relevance if it helps sustain natural structure, function, or biodiversity of an ecosystem.

This ERA was conducted to quantify potential toxicological risks from fog oil smoke training to amphibians, reptiles, and birds (assessment endpoints) in response to specific comments from the public and U.S. Fish and Wildlife Service expressed during the BRAC Environmental Impact Statement scoping process. The comments were directed at impacts to receptors from the introduction of fog oil at Fort Leonard Wood as a result of the BRAC action.

The ERA was designed to predict potential toxicological effects to selected receptors from mobile and static fog oil training.

These comments expressed concerns about potential toxicological effects from fog oil smoke training to amphibians, reptiles, non-raptor birds, and neotropical migrant birds. Therefore, we defined these groups of receptors as assessment endpoints. The ecological relevance of individual receptors selected from each group was considered when selecting the species to be assessed and is briefly discussed in the following sections. We chose 4 representative species to assess effects to other members of 3 vertebrate taxonomic classes (amphibians, reptiles, and birds).

We selected the green frog as the amphibian receptor and the yellowbelly racer for the reptile receptor. We evaluated effects to northern bobwhite quail (a non-raptor bird) and American robins (a neotropical migrant bird). Three selection criteria used to select receptor species are described briefly in Section IV of this document. A complete discussion of the receptor selection process is described below.

X.II HISTORY OF DISCUSSIONS OF RECEPTOR SELECTION

Representatives from 3D/International (3D/I), Harland Bartholomew and Associates (HBA), U.S. Fish and Wildlife Service (USFWS), Kansas City Corps of Engineers (KC COE), and Missouri Department of Conservation (MDC) participated in developing selection criteria and selection of receptor species. The following is a summary of meetings and teleconferences important to the process. Participants and a brief description of the discussions that transpired are provided in Table X-1.

TABLE X-1. Summary of meetings and conference calls held to an impact assessment method, and select receptors of concern for ERA.

Date	Participants	Summary of Discussion or Action
29 Jan 96	R. Rommé and A. Schmidt (3D/I) A. Gehrt (KC COE) B. Bax and G. Knauer (HBA) M. LeValley (US FWS)	<ol style="list-style-type: none"> 1. Possible approaches to analyzing effects to amphibians, reptiles, and birds. ERA vs. field studies 2. Decided upon conducting an ERA and investigation into smoke studies and any other applicable studies that were conducted at Fort McClellan 3. Past Fort McClellan studies would possibly provide weight of evidence for ERA findings 4. Receptors should be common to Fort Leonard Wood and Fort McClellan. 5. Decided 1 amphibian, 1 reptile, 1 non-raptor bird, and 1 neotropical migrant for ERA 6. % Populations of receptors affected (# per area) could be determined if 3D/I provided population densities for Fort Leonard Wood per area toxic concentration is shown to disperse 7. Decided MDC should help in identifying receptors
29 Jan 96	R. Rommé and A. Schmidt (3D/I) Kathy McGrath (MDC)	<ol style="list-style-type: none"> 1. Discussed several possible receptors of each taxonomic group Initial selection: Amphibian = eastern newt, bullfrog, or green frog; Reptile = yellowbelly racer, northern water snake, painted turtle, or box turtle; Non-Raptor = northern bobwhite and American woodcock; Neo-tropical migrant = great blue heron, Canada goose, mallard, spotted sandpiper, herring gull, belted kingfisher, and American robin 2. Discussed distribution and possible exposure locations on FLW for each of above species 3. K. McGrath said she would review list of potential receptors with coworkers.
6 Feb 96	A. Schmidt (3D/I) K. McGrath and J. Sternberg	<ol style="list-style-type: none"> 1. Reviewed MDC's suggested species 2. Green frog and racer are better choices for amphibians and reptile representatives
6 Feb 96	A. Schmidt (3D/I) J. Sternberg (MDC)	<ol style="list-style-type: none"> 1. Suggested we use the American robin instead of other species because it is most likely to be in exposure areas rather than large bodies of water 2. Bobwhite is best choice because of its likely to occur in exposure areas, and feed upon material exposed to fog oil.

X.III SELECTION CRITERIA AND RATIONALE FOR RECEPTOR SELECTION

Receptors were selected for different reasons. Through cooperation with the USFWS and MDC, 3D/I developed a list of potential receptors. We considered the following criteria for all potential receptors:

- availability of information to assist in estimating exposure (e.g., habitat preference, reproductive biology, population density, diet diversity, and other life history characteristics)
- geographic distribution that includes Fort Leonard Wood and Fort McClellan
- physiological and behavioral similarity of selected receptors to species of each taxa occupying exposure sites at Fort Leonard Wood

The following discussion presents the rationale used to select the receptors evaluated in this ERA.

X.III.1 Amphibian - Green Frog

The eastern newt was eliminated from consideration as a potential receptor for several reasons: it is the only newt species present in Missouri as well as on Fort Leonard Wood, it lives in aquatic and semi-aquatic habitats, and would not be representative of most amphibians. Eastern newts feed mainly on aquatic invertebrates and do not have a diverse diet. These newts have a short-lived terrestrial life stage that eats snails. We did not select bullfrogs because they spend most of their life in or near water. Bullfrogs would only represent a small portion of aquatic amphibians, and would not provide information about terrestrial exposure.

The green frog was selected as the representative amphibian because of its widespread distribution, and behavioral biology (which allow realistic maximum exposure assumptions). There are approximately 25 amphibian species on Fort Leonard Wood, of which 8 are frogs (32%). The green frog spends time in both aquatic and terrestrial environments. They feed on terrestrial organisms (e.g., beetles) on land or along shorelines of permanent to semi-permanent water sources. Green frogs occupy a wide range of habitats from shoreline to rotting logs in the forests. They are an average size anuran. They have two nonadult life cycle stages and undergo metamorphosis.

X.III.2 Reptile - Yellowbelly Racer

The northern water snake was not considered to be a representative reptile. These snakes feed primarily on aquatic organisms and spend their life either in aquatic or riparian environments. Both the painted and box turtles were considered, but their external shell could limit dermal exposure. Because other reptiles would not be afforded the protection of a shell, turtles were removed from further consideration.

We determined the yellowbelly racer was the most representative reptile. There are 45 species of reptiles on Fort Leonard Wood of which 24 are snakes (53% of total reptiles). Racers are very common and are one of the largest terrestrial snakes in the United States. They occupy a wide variety of habitats, from open fields to pine flatwoods. Racers have a very diverse diet and are dietary generalists. Compared to other reptiles and snakes, racers have a greater potential for exposure because of their large surface area, preference of open habitats (fields), consumption of terrestrial prey, and activity levels.

X.III.3 Non-raptor Bird - Northern Bobwhite

We eliminated the American woodcock as a possible receptor because of its diet, which consists primarily of earthworms. Because earthworm exposure to fog oil is likely to be minimal, and thus exposure to a consumer via the ingestion pathway would also be minimal, a receptor which consumed surface dwelling prey was desired. The northern bobwhite quail was selected to represent avian species which consume surface prey. This species also represents birds which forage on both plants and invertebrates. The bobwhite is a gallinaceous bird that scratches in the dirt. Northern bobwhites are common year-round residents on Fort Leonard Wood. Based on their feeding habits, preference for open terrestrial habitats, and their ground dwelling behavior, we assumed northern bobwhite are representative of non-raptor birds. Although using this receptor may overestimate risks to non-raptors that have less potential for exposure, increased exposure may compensate unidentified sensitivities other species may have to fog oil.

X.III.4 Neotropical Migrant - American Robin

The great blue heron, Canada goose, mallard, spotted sandpiper, herring gull, and belted kingfisher were eliminated as potential receptors because of their habitat preferences and diets. All of these birds tend to spend their time either in wetlands, along shorelines, or marshy areas. Their diets consist largely of aquatic vegetation and animals. Based on available habitat at Fort Leonard Wood in smoke training areas, it is unlikely many of these birds will be exposed.

The American robin was selected as a representative neotropical migrant because its range is widespread, it lives in many habitats, regularly consumes a variety of terrestrial food sources (seeds, worms, and insects), and some robins only migrate locally (i.e., may have increased exposure relative to other neotropical migrants). We considered their exposure duration to be equal to their lifespan. While some individuals may not be exposed for this length of time because they have migrated off the installation, others are year-round residents and could receive maximal exposures. To be protective of all neotropical migrants (i.e., overestimate rather than underestimate risks) we assumed the maximum exposure duration possible.

Appendix XI
Intake and Risk Characterization Tables of
Nonadult Life Cycle Stages of Green Frogs,
Yellowbelly Racers, Northern Bobwhites, and
American Robins

APPENDIX XI:

Intake and Risk Characterization Tables of Nonadult Life Cycle Stages of Green Frogs, Yellowbelly Racers, Northern Bobwhites, and American Robins

Green Frogs

INTAKE PARAMETERS FOR GREEN FROGS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

RISK PARAMETERS FOR GREEN FROGS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Green Frog Egg - Intake

[illegible]

Pasquill Category E

[illegible]

Green frog intake, EPTM

[illegible]

Pasquill Category E

Pasquill Category E

Mobile Smoke - Musgrave Hollow		green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption	7500	0.01	0.000007	1	35.2	0.008	0.00000177	912.5	1.2E-05
	10000	0.005	0.000007	1	35.2	0.008	0.00000177	912.5	6.1E-06
	16000	0.002	0.000007	1	35.2	0.008	0.00000177	912.5	2.4E-06
	30000	0.001	0.000007	1	35.2	0.008	0.00000177	912.5	1.2E-06
	50000	0.0005	0.000007	1	35.2	0.008	0.00000177	912.5	6.1E-07
	50000+	0.0002	0.000007	1	35.2	0.008	0.00000177	912.5	2.4E-07
	50000++	0.0001	0.000007	1	35.2	0.008	0.00000177	912.5	1.2E-07

Green frog intake, OPTM

Mobile Smoke - Musgrave Hollow		green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption	7500	0.01	0.000007	1	25.3	0.008	0.00000177	912.5	6.8E-06
	10000	0.005	0.000007	1	25.3	0.008	0.00000177	912.5	4.4E-06
	18000	0.002	0.000007	1	25.3	0.008	0.00000177	912.5	1.8E-06
	30000	0.001	0.000007	1	25.3	0.008	0.00000177	912.5	8.8E-07
	50000	0.0005	0.000007	1	25.3	0.008	0.00000177	912.5	4.4E-07
	50000+	0.0002	0.000007	1	25.3	0.008	0.00000177	912.5	1.8E-07
	50000++	0.0001	0.000007	1	25.3	0.008	0.00000177	912.5	8.8E-08

Green frog intake, EPTM

Mobile Smoke - Musgrave Hollow		green frog egg		Skin Surface Area (m ²)		ABS		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)		Dermally Absorbed Dose (g/kg-day)	
	Distance (m)	Fog Oil Concentration (g/m ³)															
Dermal Absorption																	
	7500	0.01		0.000007		1		18.3		0.008		0.00000177		912.5		5.7E-08	
	10000	0.005		0.000007		1		18.3		0.008		0.00000177		912.5		2.8E-08	
	18000	0.002		0.000007		1		18.3		0.008		0.00000177		912.5		1.1E-08	
	30000	0.001		0.000007		1		18.3		0.008		0.00000177		912.5		5.7E-07	
	50000	0.0005		0.000007		1		18.3		0.008		0.00000177		912.5		2.8E-07	
	50000+	0.0002		0.000007		1		18.3		0.008		0.00000177		912.5		1.1E-07	
	50000++	0.0001		0.000007		1		18.3		0.008		0.00000177		912.5		5.7E-08	

Green frog Intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.000007	1	17.6	0.008	0.00000177	912.5	6.1E-06
	10000	0.005	0.000007	1	17.6	0.008	0.00000177	912.5	3.0E-06
	16000	0.002	0.000007	1	17.6	0.008	0.00000177	912.5	1.2E-06
	30000	0.001	0.000007	1	17.6	0.008	0.00000177	912.5	6.1E-07
	50000	0.0005	0.000007	1	17.6	0.008	0.00000177	912.5	3.0E-07
	50000+	0.0002	0.000007	1	17.6	0.008	0.00000177	912.5	1.2E-07
	50000++	0.0001	0.000007	1	17.6	0.008	0.00000177	912.5	6.1E-08

Pasquill Category E

Green frog Intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog egg									
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)		
Dermal Absorption											
	7500	0.01	0.000007	1	12.7	0.008	0.000000177	912.5	4.4E-06		
	10000	0.005	0.000007	1	12.7	0.008	0.00000177	912.5	2.2E-06		
	18000	0.002	0.000007	1	12.7	0.008	0.00000177	912.5	8.8E-07		
	30000	0.001	0.000007	1	12.7	0.008	0.000000177	912.5	4.4E-07		
	50000	0.0005	0.000007	1	12.7	0.008	0.00000177	912.5	2.2E-07		
	50000+	0.0002	0.000007	1	12.7	0.008	0.00000177	912.5	8.8E-08		
	50000++	0.0001	0.000007	1	12.7	0.008	0.00000177	912.5	4.4E-08		

Green frog Intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog egg		ABS		EF (days/yr)		ED (yr)		BW (kg)		AT (days)		Dermally Absorbed Dose (µg/kg-day)	
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)												
Dermal Absorption															
	7500	0.01	0.000007			8.2	0.008	0.00000177	912.5					2.8E-08	
	10000	0.005	0.000007			8.2	0.008	0.00000177	912.5					1.4E-08	
	15000	0.002	0.000007			8.2	0.008	0.00000177	912.5					5.7E-07	
	30000	0.001	0.000007			8.2	0.008	0.00000177	912.5					2.8E-07	
	50000	0.0005	0.000007			8.2	0.008	0.00000177	912.5					1.4E-07	
	50000+	0.0002	0.000007			8.2	0.008	0.00000177	912.5					5.7E-08	
	50000++	0.0001	0.000007			8.2	0.008	0.00000177	912.5					2.8E-08	

Pasquill Category E

Green frog Intake, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)			green frog egg						
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.000007	1	22.0	0.008	0.00000177	912.5	7.8E-08
	10000	0.005	0.000007	1	22.0	0.008	0.00000177	912.5	3.9E-08
	18000	0.002	0.000007	1	22.0	0.008	0.00000177	912.5	1.5E-08
	30000	0.001	0.000007	1	22.0	0.008	0.00000177	912.5	7.8E-07
	50000	0.0005	0.000007	1	22.0	0.008	0.00000177	912.5	3.9E-07
	50000+	0.0002	0.000007	1	22.0	0.008	0.00000177	912.5	1.5E-07
	50000++	0.0001	0.000007	1	22.0	0.008	0.00000177	912.5	7.8E-08

Green frog Intake, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)		Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	7500	0.01		0.000007	1	15.8	0.008	0.00000177	912.5	5.5E-06	
	10000	0.005		0.000007	1	15.8	0.008	0.00000177	912.5	2.7E-06	
	18000	0.002		0.000007	1	15.8	0.008	0.00000177	912.5	1.1E-06	
	30000	0.001		0.000007	1	15.8	0.008	0.00000177	912.5	5.5E-07	
	50000	0.0005		0.000007	1	15.8	0.008	0.00000177	912.5	2.7E-07	
	50000+	0.0002		0.000007	1	15.8	0.008	0.00000177	912.5	1.1E-07	
	50000++	0.0001		0.000007	1	15.8	0.008	0.00000177	912.5	5.5E-08	

Green frog Intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)		green frog egg									
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	7500	0.01	0.000007		1	10.2	0.008	0.00000177	912.5	3.5E-06	
	10000	0.005	0.000007		1	10.2	0.008	0.00000177	912.5	1.8E-06	
	18000	0.002	0.000007		1	10.2	0.008	0.00000177	912.5	7.1E-07	
	30000	0.001	0.000007		1	10.2	0.008	0.00000177	912.5	3.5E-07	
	50000	0.0005	0.000007		1	10.2	0.008	0.00000177	912.5	1.8E-07	
	50000+	0.0002	0.000007		1	10.2	0.008	0.00000177	912.5	7.1E-08	
	50000++	0.0001	0.000007		1	10.2	0.008	0.00000177	912.5	3.5E-08	

Pasquill Category E

Green frog Intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption										
	7500	0.01	0.000007	1	28.4	0.008	0.00000177	912.5	9.1E-08	
	10000	0.005	0.000007	1	28.4	0.008	0.00000177	912.5	4.6E-08	
	18000	0.002	0.000007	1	28.4	0.008	0.00000177	912.5	1.9E-08	
	30000	0.001	0.000007	1	28.4	0.008	0.00000177	912.5	9.1E-07	
	50000	0.0005	0.000007	1	28.4	0.008	0.00000177	912.5	4.6E-07	
	50000+	0.0002	0.000007	1	28.4	0.008	0.00000177	912.5	1.9E-07	
	50000++	0.0001	0.000007	1	28.4	0.008	0.00000177	912.5	9.1E-08	

Green frog intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	green frog egg		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
			Skin Surface Area (m ²)							
Dermal Absorption										
	7500	0.01		0.000007	1	19.0	0.008	0.00000177	912.5	6.6E-08
	10000	0.005		0.000007	1	19.0	0.008	0.00000177	912.5	3.3E-08
	18000	0.002		0.000007	1	19.0	0.008	0.00000177	912.5	1.3E-08
	30000	0.001		0.000007	1	19.0	0.008	0.00000177	912.5	6.6E-07
	50000	0.0005		0.000007	1	19.0	0.008	0.00000177	912.5	3.3E-07
	50000+	0.0002		0.000007	1	19.0	0.008	0.00000177	912.5	1.3E-07
	50000++	0.0001		0.000007	1	19.0	0.008	0.00000177	912.5	6.6E-08

Green frog Intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			green frog egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01	0.000007		1	12.3	0.008	0.00000177	912.5	4.2E-06
	10000	0.005	0.000007		1	12.3	0.008	0.00000177	912.5	2.1E-06
	18000	0.002	0.000007		1	12.3	0.008	0.00000177	912.5	8.5E-07
	30000	0.001	0.000007		1	12.3	0.008	0.00000177	912.5	4.2E-07
	50000	0.0005	0.000007		1	12.3	0.008	0.00000177	912.5	2.1E-07
	50000+	0.0002	0.000007		1	12.3	0.008	0.00000177	912.5	8.5E-08
	50000++	0.0001	0.000007		1	12.3	0.008	0.00000177	912.5	4.2E-08

Green Frog Egg - Risk

Green frog risk, RCP

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	green frog egg Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	1.7E-03	2.9E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	2.1E-08	No	No
	10000	5.0E-03	1.7E-03	1.4E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	1.1E-08	No	No
	18000	2.0E-03	1.7E-03	5.8E-07	2	216	16	160	0.13	1.4E+00	1.0E-02	4.3E-07	No	No
	30000	1.0E-03	1.7E-03	2.9E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.1E-07	No	No
	50000	5.0E-04	1.7E-03	1.4E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.1E-07	No	No
	50000+	2.0E-04	1.7E-03	5.8E-08	2	216	16	160	0.13	1.4E+00	1.0E-03	4.3E-08	No	No
	50000++	1.0E-04	1.7E-03	2.9E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Intake Value (g/m ³)	green frog egg	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	1.7E-03	1.7E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	9.1E-07	No	No
	10000	5.0E-03	1.7E-03	1.7E-03	6.1E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	4.5E-07	No	No
	18000	2.0E-03	1.7E-03	1.7E-03	2.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	1.8E-07	No	No
	30000	1.0E-03	1.7E-03	1.7E-03	1.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	9.1E-08	No	No
	50000	5.0E-04	1.7E-03	1.7E-03	6.1E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	4.5E-08	No	No
	50000+	2.0E-04	1.7E-03	1.7E-03	2.5E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.8E-08	No	No
	50000++	1.0E-04	1.7E-03	1.7E-03	1.2E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	9.1E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	green frog egg			Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)													
Dermal Absorption	7500	1.0E-02	1.7E-03		1.8E-07	2	218	16	160	0.13	1.4E+00		8.0E-02	1.2E-07	No	No
	10000	5.0E-03	1.7E-03		7.0E-08	2	218	16	160	0.13	1.4E+00		4.0E-02	5.0E-08	No	No
	18000	2.0E-03	1.7E-03		3.2E-08	2	218	16	160	0.13	1.4E+00		1.8E-02	2.4E-08	No	No
	30000	1.0E-03	1.7E-03		1.8E-08	2	218	16	160	0.13	1.4E+00		8.0E-03	1.2E-08	No	No
	50000	5.0E-04	1.7E-03		7.0E-09	2	218	16	160	0.13	1.4E+00		4.0E-03	5.0E-09	No	No
	50000+	2.0E-04	1.7E-03		3.2E-09	2	218	16	160	0.13	1.4E+00		1.8E-03	2.4E-09	No	No
	50000++	1.0E-04	1.7E-03		1.8E-09	2	218	16	160	0.13	1.4E+00		8.0E-04	1.2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Mobile Smoke - Musgrave Hollow		green frog egg											
Distance (m)	Daily Active Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	1.7E-03	1.2E-05	2	216	16	160	0.13	1.4E+00	8.0E-02	9.0E-06	No	No
10000	5.0E-03	1.7E-03	6.1E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	4.5E-06	No	No
18000	2.0E-03	1.7E-03	2.4E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.9E-06	No	No
30000	1.0E-03	1.7E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-03	9.0E-07	No	No
50000	5.0E-04	1.7E-03	6.1E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	4.5E-07	No	No
50000+	2.0E-04	1.7E-03	2.4E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.9E-07	No	No
50000++	1.0E-04	1.7E-03	1.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	9.0E-08	No	No
**Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
***Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980

Green frog risk, OPTM

Mobile Smoke - Musgrave Hollow				green frog egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)														
Dermal Absorption																
	7500	1.0E-02	1.7E-03	8.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	6.5E-06	No	No	No	No
	10000	5.0E-03	1.7E-03	4.4E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	3.3E-06	No	No	No	No
	18000	2.0E-03	1.7E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	1.0E-02	1.3E-06	No	No	No	No
	30000	1.0E-03	1.7E-03	8.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	6.5E-07	No	No	No	No
	50000	5.0E-04	1.7E-03	4.4E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	3.3E-07	No	No	No	No
	50000+	2.0E-04	1.7E-03	1.8E-07	2	216	16	160	0.13	1.4E+00	1.0E-03	1.3E-07	No	No	No	No
	50000++	1.0E-04	1.7E-03	8.8E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	6.5E-08	No	No	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Pasquill Category E

Mobile Smoke - Musgrave Hollow			green frog egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Intake (g/m ²)	Intake Value (g/m ²)	Skin Surface Area (m ²)												
Dermal Absorption	7500	1.0E-02	1.7E-03	5.7E-06	2	216	216	16	160	0.13	1.4E+00	8.0E-02	4.2E-06	No	No
	10000	5.0E-03	1.7E-03	2.8E-06	2	216	216	16	160	0.13	1.4E+00	4.0E-02	2.1E-06	No	No
	18000	2.0E-03	1.7E-03	1.1E-06	2	216	216	16	160	0.13	1.4E+00	1.6E-02	8.4E-07	No	No
	30000	1.0E-03	1.7E-03	5.7E-07	2	216	216	16	160	0.13	1.4E+00	8.0E-03	4.2E-07	No	No
	50000	5.0E-04	1.7E-03	2.8E-07	2	216	216	16	160	0.13	1.4E+00	4.0E-03	2.1E-07	No	No
	50000+	2.0E-04	1.7E-03	1.1E-07	2	216	216	16	160	0.13	1.4E+00	1.6E-03	8.4E-08	No	No
	50000++	1.0E-04	1.7E-03	5.7E-08	2	216	216	16	160	0.13	1.4E+00	8.0E-04	4.2E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog egg		*Acute Toxicity Value (g/kg)	Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)										
Dermal Absorption													
7500	1.0E-02	1.7E-03	6.1E-06	2	216	16	16	0.13	1.4E+00	8.0E-02	4.5E-06	No	No
10000	5.0E-03	1.7E-03	3.0E-06	2	216	16	16	0.13	1.4E+00	4.0E-02	2.3E-06	No	No
18000	2.0E-03	1.7E-03	1.2E-06	2	216	16	16	0.13	1.4E+00	1.6E-02	9.0E-07	No	No
30000	1.0E-03	1.7E-03	6.1E-07	2	216	16	16	0.13	1.4E+00	8.0E-03	4.5E-07	No	No
50000	5.0E-04	1.7E-03	3.0E-07	2	216	16	16	0.13	1.4E+00	4.0E-03	2.3E-07	No	No
50000+	2.0E-04	1.7E-03	1.2E-07	2	216	16	16	0.13	1.4E+00	1.6E-03	9.0E-08	No	No
50000++	1.0E-04	1.7E-03	6.1E-08	2	216	16	16	0.13	1.4E+00	8.0E-04	4.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow			green frog egg		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)											
Dermal Absorption														
	7500	1.0E-02	1.7E-03	4.4E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	3.3E-06	No	No
	10000	5.0E-03	1.7E-03	2.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	1.6E-06	No	No
	18000	2.0E-03	1.7E-03	8.8E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	6.5E-07	No	No
	30000	1.0E-03	1.7E-03	4.4E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	3.3E-07	No	No
	50000	5.0E-04	1.7E-03	2.2E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.6E-07	No	No
	50000+	2.0E-04	1.7E-03	8.8E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	6.5E-08	No	No
50000++	1.0E-04	1.7E-03	4.4E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	3.3E-08	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1960														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category E

Mobile Smoke - Ballard Hollow or Wolf Hollow Utility Acre	Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	green frog egg Dermally absorbed dose (µg/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	1.7E-03	2.8E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	2.1E-06	No	No
	10000	5.0E-03	1.7E-03	1.4E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	1.0E-06	No	No
	18000	2.0E-03	1.7E-03	5.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	4.2E-07	No	No
	30000	1.0E-03	1.7E-03	2.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.1E-07	No	No
	50000	5.0E-04	1.7E-03	1.4E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.0E-07	No	No
	50000+	2.0E-04	1.7E-03	5.7E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	4.2E-08	No	No
	50000++	1.0E-04	1.7E-03	2.8E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Green frog risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	green frog egg	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
				*Acute Toxicity Value (g/kg)									
Dermal Absorption													
7500	1.0E-02	1.7E-03	7.9E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	5.9E-06	No	No
10000	5.0E-03	1.7E-03	3.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	2.9E-06	No	No
18000	2.0E-03	1.7E-03	1.5E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.1E-06	No	No
30000	1.0E-03	1.7E-03	7.9E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	5.0E-07	No	No
50000	5.0E-04	1.7E-03	3.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.9E-07	No	No
50000+	2.0E-04	1.7E-03	1.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.1E-07	No	No
50000++	1.0E-04	1.7E-03	7.9E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	5.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category E

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				Utility ACUONS		Dermally absorbed dose (g/kg-day)	green frog egg	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Intake Value (g/m ²)	Skin surface Area (m ²)	Intake Value (g/m ²)	Intake Value (g/m ²)												
Dermal Absorption																
	7500	1.0E-02	1.7E-03		5.5E-06		2	216	16	160	0.13	1.4E+00	8.0E-02	4.1E-08	No	No
	10000	5.0E-03	1.7E-03		2.7E-06		2	216	16	160	0.13	1.4E+00	2.0E-02	2.0E-06	No	No
	18000	2.0E-03	1.7E-03		1.1E-06		2	216	16	160	0.13	1.4E+00	1.6E-02	8.1E-07	No	No
	30000	1.0E-03	1.7E-03		5.5E-07		2	216	16	160	0.13	1.4E+00	8.0E-03	4.1E-07	No	No
	50000	5.0E-04	1.7E-03		2.7E-07		2	216	16	160	0.13	1.4E+00	4.0E-03	2.0E-07	No	No
	50000+	2.0E-04	1.7E-03		1.1E-07		2	216	16	160	0.13	1.4E+00	1.6E-03	8.1E-08	No	No
	50000++	1.0E-04	1.7E-03		5.5E-08		2	216	16	160	0.13	1.4E+00	8.0E-04	4.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990

**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989

Green frog risk, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				green frog egg																
	Distance (m)	Daily Intake (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Dermal Absorption																				
	7500	1.0E-02	1.7E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	2.6E-06	No	No						
	10000	5.0E-03	1.7E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	1.3E-06	No	No						
	18000	2.0E-03	1.7E-03	7.1E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	5.2E-07	No	No						
	30000	1.0E-03	1.7E-03	3.5E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.6E-07	No	No						
	50000	5.0E-04	1.7E-03	1.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.3E-07	No	No						
	50000+	2.0E-04	1.7E-03	7.1E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	5.2E-08	No	No						
	50000++	1.0E-04	1.7E-03	3.5E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.6E-08	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																				
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																				

Pasquill Category E

Green frog risk, RCP

Mobile Smoke - Bailey McCann Hollow of Babb Airfield													
Daily Acute			green frog egg										
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	1.7E-03	9.1E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	8.9E-08	No	No
10000	5.0E-03	1.7E-03	4.6E-06	2	216	16	180	0.13	1.4E+00	4.0E-02	3.4E-06	No	No
18000	2.0E-03	1.7E-03	1.8E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	1.4E-06	No	No
30000	1.0E-03	1.7E-03	9.1E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	6.9E-07	No	No
50000	5.0E-04	1.7E-03	4.6E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	3.4E-07	No	No
50000+	2.0E-04	1.7E-03	1.8E-07	2	216	16	180	0.13	1.4E+00	1.6E-03	1.4E-07	No	No
50000++	1.0E-04	1.7E-03	9.1E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	6.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Pasquill Category E

Green frog risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield				green frog egg		Chronic TRV (g/kg)		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute TRV (g/kg)		Chronic TRV (g/kg)			
Distance (m)	Daily Intake (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Dermal Absorption																	
7500	1.0E-02	1.7E-03	6.6E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	4.9E-06	No	No				
10000	5.0E-03	1.7E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	2.4E-06	No	No				
18000	2.0E-03	1.7E-03	1.3E-06	2	216	16	160	0.13	1.4E+00	1.8E-02	9.8E-07	No	No				
30000	1.0E-03	1.7E-03	6.6E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	4.9E-07	No	No				
50000	5.0E-04	1.7E-03	3.3E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.4E-07	No	No				
50000+	2.0E-04	1.7E-03	1.3E-07	2	216	16	160	0.13	1.4E+00	1.8E-03	9.8E-08	No	No				
50000++	1.0E-04	1.7E-03	6.6E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	4.9E-08	No	No				
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																	
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																	

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			green frog egg		Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)																	
Dermal Absorption																						
7500	1.0E-02	1.7E-03	4.2E-06	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	8.0E-02	3.1E-06	No	No	No	No		
10000	5.0E-03	1.7E-03	2.1E-06	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	4.0E-02	1.6E-06	No	No	No	No		
18000	2.0E-03	1.7E-03	8.5E-07	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	1.6E-02	6.3E-07	No	No	No	No		
30000	1.0E-03	1.7E-03	4.2E-07	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	8.0E-03	3.1E-07	No	No	No	No		
50000	5.0E-04	1.7E-03	2.1E-07	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	4.0E-03	1.6E-07	No	No	No	No		
50000+	2.0E-04	1.7E-03	8.5E-08	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	1.6E-03	6.3E-08	No	No	No	No		
50000++	1.0E-04	1.7E-03	4.2E-08	2	216	16	16	16	16	16	0.13	0.13	1.4E+00	1.4E+00	8.0E-04	3.1E-08	No	No	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																						
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																						

Green Frog Tadpole - Intake

Green frog Intake, RCP

Static Smoke	green frog tadpole		Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
	Distance (m)											
Ingestion												
	7500		0.01	0.000179	0.17	1.1E-05	3.4E-02	16.7	0.75	0.002	1825	1.2E-08
	10000		0.005	0.000179	0.17	5.3E-06	3.4E-02	16.7	0.75	0.002	1825	6.1E-07
	18000		0.002	0.000179	0.17	2.1E-06	3.4E-02	16.7	0.75	0.002	1825	2.5E-07
	30000		0.001	0.000179	0.17	1.1E-06	3.4E-02	16.7	0.75	0.002	1825	1.2E-07
	50000		0.0005	0.000179	0.17	5.3E-07	3.4E-02	16.7	0.75	0.002	1825	6.1E-08
	50000+		0.0002	0.000179	0.17	2.1E-07	3.4E-02	16.7	0.75	0.002	1825	2.5E-08
	50000++		0.0001	0.000179	0.17	1.1E-07	3.4E-02	16.7	0.75	0.002	1825	1.2E-08

[illegible]

Green frog Intake, EPTM

Static Smoke	green frog tadpole	Fog Oil	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion	Distance (m)	Deposition (g/m ²)									
	7500	0.01	0.000179	0.17	1.1E-05	3.4E-02	0.9	0.75	0.002	1825	6.7E-08
	10000	0.005	0.000179	0.17	5.3E-06	3.4E-02	0.9	0.75	0.002	1825	3.4E-08
	18000	0.002	0.000179	0.17	2.1E-06	3.4E-02	0.9	0.75	0.002	1825	1.3E-08
	30000	0.001	0.000179	0.17	1.1E-06	3.4E-02	0.9	0.75	0.002	1825	6.7E-09
	50000	0.0005	0.000179	0.17	5.3E-07	3.4E-02	0.9	0.75	0.002	1825	3.4E-09
	50000+	0.0002	0.000179	0.17	2.1E-07	3.4E-02	0.9	0.75	0.002	1825	1.3E-09
	50000++	0.0001	0.000179	0.17	1.1E-07	3.4E-02	0.9	0.75	0.002	1825	6.7E-10

Pasquill Category E

Green frog intake, RCP

[illegible]

Pasquill Category E

Green frog intake, EPTM

Mobile Smoke - Musgrave Hollow	green frog tadpole				Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
	Distance (m)	Fog Off Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)						
Ingestion										
	7500	0.01	0.000179	0.17	1.1E-05	18.3	0.75	0.002	912.5	2.4E-06
	10000	0.005	0.000179	0.17	5.3E-06	18.3	0.75	0.002	912.5	1.2E-06
	18000	0.002	0.000179	0.17	2.1E-06	18.3	0.75	0.002	912.5	4.8E-07
	30000	0.001	0.000179	0.17	1.1E-06	18.3	0.75	0.002	912.5	2.4E-07
	50000	0.0005	0.000179	0.17	5.3E-07	18.3	0.75	0.002	912.5	1.2E-07
	50000+	0.0002	0.000179	0.17	2.1E-07	18.3	0.75	0.002	912.5	4.8E-08
	50000++	0.0001	0.000179	0.17	1.1E-07	18.3	0.75	0.002	912.5	2.4E-08

Pasquill Category E

Green frog intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		Fog Oil		green frog tadpole		Intake Rate		EF (days/yr)		ED (yr)		BW (kg)		AT (days)		Daily Chronic Intake	
Distance	Deposition	Prey SA	Prey Weight	CF (g/g)	Daily IR												
(m)	(g/m ²)	(m ²)	(g)														
Ingestion																	
7500	0.01	0.000179	0.17	1.1E-05	3.4E-02	17.8		0.75		0.002		912.5		2.8E-08			
10000	0.005	0.000179	0.17	5.3E-06	3.4E-02	17.8		0.75		0.002		912.5		1.3E-08			
18000	0.002	0.000179	0.17	2.1E-06	3.4E-02	17.8		0.75		0.002		912.5		5.2E-07			
30000	0.001	0.000179	0.17	1.1E-06	3.4E-02	17.8		0.75		0.002		912.5		2.8E-07			
50000	0.0005	0.000179	0.17	5.3E-07	3.4E-02	17.8		0.75		0.002		912.5		1.3E-07			
50000+	0.0002	0.000179	0.17	2.1E-07	3.4E-02	17.8		0.75		0.002		912.5		5.2E-08			
50000++	0.0001	0.000179	0.17	1.1E-07	3.4E-02	17.8		0.75		0.002		912.5		2.8E-08			

Green frog intake, OPTM

[illegible]

Pasquill Category E

Green frog intake, EPTM

[illegible]

Pasquill Category E

Green frog intake, RCP

[illegible]

Pasquill Category E

Green frog intake, OPTM

[illegible]

Green frog intake, EPTM

Mobile Smoke - Cannon Range (Mush Puddle Hollow)				green frog tadpole							
	Distance (m)	Fog Oil Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion											
	7500	0.01	0.000179	0.17	1.1E-06	3.4E-02	10.2	0.75	0.002	912.5	1.5E-06
	10000	0.005	0.000179	0.17	5.3E-08	3.4E-02	10.2	0.75	0.002	912.5	7.5E-07
	18000	0.002	0.000179	0.17	2.1E-06	3.4E-02	10.2	0.75	0.002	912.5	3.0E-07
	30000	0.001	0.000179	0.17	1.1E-06	3.4E-02	10.2	0.75	0.002	912.5	1.5E-07
	50000	0.0005	0.000179	0.17	5.3E-07	3.4E-02	10.2	0.75	0.002	912.5	7.5E-08
	50000+	0.0002	0.000179	0.17	2.1E-07	3.4E-02	10.2	0.75	0.002	912.5	3.0E-08
	50000++	0.0001	0.000179	0.17	1.1E-07	3.4E-02	10.2	0.75	0.002	912.5	1.5E-08

Pasquill Category E

[illegible]

Green frog intake, OPTM

[illegible]

Pasquill Category E

Green frog intake, EPTM

[illegible]

Pasquill Category E

Green Frog Tadpole - Risk

Green frog risk, RCP

Static Smoke	Distance (m)	green frog tadpole	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500		1.1E-05	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	9.8E-06	6.8E-05	No	No
	10000		5.3E-06	6.1E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	4.5E-05	No	No
	18000		2.1E-06	2.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	1.8E-05	No	No
	30000		1.1E-06	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	9.8E-07	8.8E-06	No	No
	50000		5.3E-07	6.1E-08	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	4.5E-06	No	No
	50000+		2.1E-07	2.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	1.8E-06	No	No
	50000++		1.1E-07	1.2E-08	17.6	22	16	1600	1.10	1.4E-02	9.8E-08	8.8E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														

Pasquill Category E

Static Smoke	Distance (m)	green frog tadpole		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		Daily Acute Intake Value (g/kg)												
Ingestion														
	7500	1.1E-05		5.2E-07	17.6	22	16	1600	1.10	1.4E-02	9.8E-06	3.8E-05	No	No
	10000	5.3E-06		2.6E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	1.9E-05	No	No
	18000	2.1E-06		1.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	7.8E-06	No	No
	30000	1.1E-06		5.2E-08	17.6	22	16	1600	1.10	1.4E-02	9.8E-07	3.8E-06	No	No
	50000	5.3E-07		2.6E-08	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	1.9E-06	No	No
	50000+	2.1E-07		1.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	7.8E-07	No	No
	50000++	1.1E-07		5.2E-09	17.6	22	16	1600	1.10	1.4E-02	9.8E-08	3.8E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1956														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														

Static Smoke	green frog tadpole	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
		7500	1.1E-05	6.7E-09	17.8	22	18	1800	1.10	1.4E-02	9.8E-08	4.9E-08	No	No
		10000	5.3E-06	3.4E-08	17.8	22	18	1800	1.10	1.4E-02	4.9E-08	2.5E-08	No	No
		18000	2.1E-06	1.3E-08	17.8	22	18	1800	1.10	1.4E-02	1.9E-08	9.8E-07	No	No
		30000	1.1E-06	6.7E-09	17.8	22	18	1800	1.10	1.4E-02	9.8E-07	4.9E-07	No	No
		50000	5.3E-07	3.4E-09	17.8	22	18	1800	1.10	1.4E-02	4.9E-07	2.5E-07	No	No
		50000+	2.1E-07	1.3E-09	17.8	22	18	1800	1.10	1.4E-02	1.9E-07	9.8E-08	No	No
		50000++	1.1E-07	6.7E-10	17.8	22	18	1800	1.10	1.4E-02	9.8E-08	4.9E-08	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow	green frog tadpole		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Distance (m)	Daily Acute Intake Value (g/kg)											
Ingestion													
	7500	1.1E-05	5.2E-08	17.8	22	18	1800	1.10	1.4E-02	9.8E-08	3.8E-04	No	No
	10000	5.3E-08	2.8E-08	17.8	22	18	1800	1.10	1.4E-02	4.8E-08	1.8E-04	No	No
	18000	2.1E-08	1.0E-08	17.8	22	18	1800	1.10	1.4E-02	1.9E-08	7.5E-05	No	No
	30000	1.1E-08	5.2E-07	17.8	22	18	1800	1.10	1.4E-02	9.8E-07	3.8E-05	No	No
	50000	5.3E-07	2.8E-07	17.8	22	18	1800	1.10	1.4E-02	4.8E-07	1.9E-05	No	No
	50000+	2.1E-07	1.0E-07	17.8	22	18	1800	1.10	1.4E-02	1.9E-07	7.5E-06	No	No
	50000++	1.1E-07	5.2E-08	17.8	22	18	1800	1.10	1.4E-02	9.8E-08	3.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Barnachan 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Green frog risk, OPTM

Mobile Smoke - Musgrave Hollow			green frog tadpole															
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect					
Ingestion																		
	7500	1.1E-05	3.7E-06	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	2.7E-04	No	No					
	10000	5.3E-06	1.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-06	1.4E-04	No	No					
	18000	2.1E-06	7.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	5.4E-05	No	No					
	30000	1.1E-06	3.7E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	2.7E-05	No	No					
	50000	5.3E-07	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-06	1.4E-05	No	No					
	50000+	2.1E-07	7.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	5.4E-06	No	No					
	50000++	1.1E-07	3.7E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	2.7E-06	No	No					
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																		
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																		

Pasquill Category E

Mobile Smoke - Musgrave Hollow			green frog tadpole										
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
	7500	1.1E-05	2.4E-06	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	1.7E-04	No	No
	10000	5.3E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	8.7E-05	No	No
	16000	2.1E-06	4.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	3.5E-05	No	No
	30000	1.1E-06	2.4E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	1.7E-05	No	No
	50000	5.3E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	8.7E-06	No	No
	50000+	2.1E-07	4.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	3.5E-06	No	No
	50000+++	1.1E-07	2.4E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	1.7E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Green frog risk, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog tadpole		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)											
Ingestion													
7500	1.1E-05	2.6E-08	17.6	22	18	1800	1.10	1.4E-02	1.9E-04	9.8E-08	1.9E-04	No	No
10000	5.3E-06	1.3E-08	17.6	22	18	1800	1.10	1.4E-02	9.4E-05	4.8E-08	9.4E-05	No	No
18000	2.1E-06	5.2E-07	17.6	22	18	1800	1.10	1.4E-02	3.8E-05	1.9E-08	3.8E-05	No	No
30000	1.1E-06	2.6E-07	17.6	22	18	1800	1.10	1.4E-02	1.9E-05	9.8E-07	1.9E-05	No	No
50000	5.3E-07	1.3E-07	17.6	22	18	1800	1.10	1.4E-02	9.4E-06	4.8E-07	9.4E-06	No	No
50000++	2.1E-07	5.2E-08	17.6	22	18	1800	1.10	1.4E-02	3.8E-06	1.9E-07	3.8E-06	No	No
	1.1E-07	2.6E-08	17.6	22	18	1800	1.10	1.4E-02	1.9E-06	9.8E-08	1.9E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Pasquill Category E

Green frog risk, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		green frog tadpole		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)											
Ingestion													
7500	1.1E-05	1.9E-06	17.8	22	16	1600	1.10	1.10	1.4E-02	9.8E-08	1.4E-04	No	No
10000	5.3E-06	9.3E-07	17.8	22	16	1600	1.10	1.10	1.4E-02	4.8E-05	6.8E-05	No	No
18000	2.1E-06	3.7E-07	17.8	22	16	1600	1.10	1.10	1.4E-02	1.9E-06	2.7E-05	No	No
30000	1.1E-06	1.9E-07	17.8	22	16	1600	1.10	1.10	1.4E-02	9.8E-07	1.4E-05	No	No
50000	5.3E-07	9.3E-08	17.8	22	16	1600	1.10	1.10	1.4E-02	4.8E-07	6.8E-06	No	No
50000++	2.1E-07	3.7E-08	17.8	22	16	1600	1.10	1.10	1.4E-02	1.9E-07	2.7E-06	No	No
50000++	1.1E-07	1.9E-08	17.8	22	16	1600	1.10	1.10	1.4E-02	9.8E-08	1.4E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Pasquill Category E

Mobile Smoke - Ballard Hollow or Wolf Hollow	Distance (m)	Daily Acute Intake Value (g/kg)	green frog tadpole Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
	7500	1.1E-05	1.2E-08	17.6	22	18	1800	1.10	1.4E-02	9.6E-08	8.7E-05	No	No
	10000	5.3E-06	6.0E-07	17.6	22	18	1800	1.10	1.4E-02	4.8E-08	4.4E-05	No	No
	18000	2.1E-06	2.4E-07	17.6	22	18	1800	1.10	1.4E-02	1.9E-08	1.7E-05	No	No
	30000	1.1E-06	1.2E-07	17.6	22	18	1800	1.10	1.4E-02	9.6E-07	8.7E-08	No	No
	50000	5.3E-07	6.0E-08	17.6	22	18	1800	1.10	1.4E-02	4.8E-07	4.4E-08	No	No
	50000+	2.1E-07	2.4E-08	17.6	22	18	1800	1.10	1.4E-02	1.9E-07	1.7E-08	No	No
	50000++	1.1E-07	1.2E-08	17.6	22	18	1800	1.10	1.4E-02	9.6E-08	8.7E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Green frog risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)			green frog tadpole				Chronic TRV				Acute TRV				Chronic TRV (g/kg)				Acute Hazard Quotient				Chronic Hazard Quotient				Acute Effect				Chronic Effect																																																																																																																																																																																																																																																																																																																																																																																																				
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Chronic TRV Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)

Pasquill Category E

Green frog risk, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)			green frog tadpole											
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion														
	7500	1.1E-05	2.3E-06	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	1.7E-04	No	No	
	10000	5.3E-06	1.2E-06	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	8.5E-05	No	No	
	18000	2.1E-06	4.7E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	3.4E-05	No	No	
	30000	1.1E-06	2.3E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	1.7E-05	No	No	
	50000	5.3E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	8.5E-06	No	No	
	50000+	2.1E-07	4.7E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	3.4E-06	No	No	
	50000++	1.1E-07	2.3E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	1.7E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														

Pasquill Category E

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				green frog tadpole											
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
Ingestion															
	7500	1.1E-06	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-06	1.1E-04	No	No		
	10000	5.3E-06	7.5E-07	17.6	22	16	1600	1.10	1.4E-02	4.8E-06	5.5E-05	No	No		
	18000	2.1E-06	3.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.9E-06	2.2E-05	No	No		
	30000	1.1E-06	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	9.6E-07	1.1E-05	No	No		
	50000	5.3E-07	7.5E-08	17.6	22	16	1600	1.10	1.4E-02	4.8E-07	5.5E-06	No	No		
	50000+	2.1E-07	3.0E-08	17.6	22	16	1600	1.10	1.4E-02	1.9E-07	2.2E-06	No	No		
	50000++	1.1E-07	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	9.6E-08	1.1E-06	No	No		
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															

Green frog risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babs Airfield			green frog tadpole													
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect			
Ingestion																
	7500	1.1E-05	3.9E-08	17.6	22	18	1600	1.10	1.4E-02	9.6E-08	2.8E-04	No	No			
	10000	5.3E-08	1.9E-08	17.6	22	18	1600	1.10	1.4E-02	4.8E-08	1.4E-04	No	No			
		2.1E-06	18000	7.8E-07	17.6	22	1600	1.10	1.4E-02	5.9E-05	5.8E-05	No	No			
	30000	1.1E-08	3.9E-07	17.6	22	18	1600	1.10	1.4E-02	9.6E-07	2.8E-05	No	No			
	50000	5.3E-07	1.9E-07	17.6	22	18	1600	1.10	1.4E-02	4.8E-07	1.4E-05	No	No			
	50000+	2.1E-07	7.8E-08	17.6	22	18	1600	1.10	1.4E-02	1.9E-07	5.9E-06	No	No			
	50000++	1.1E-07	3.9E-08	17.6	22	18	1600	1.10	1.4E-02	9.6E-08	2.8E-06	No	No			
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			green frog tadpole														
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect			
				Value (g/kg)	Value (g/kg)												
Ingestion																	
	7500	1.1E-05	2.8E-08	17.8	22		18		1.10		9.6E-08	2.0E-04	No	No			
	10000	5.3E-08	1.4E-08	17.8	22		18		1.10		4.8E-08	1.0E-04	No	No			
	18000	2.1E-08	5.8E-07	17.8	22		18		1.10		4.1E-06	4.1E-05	No	No			
	30000	1.1E-08	2.8E-07	17.8	22		18		1.10		9.6E-07	2.0E-05	No	No			
	50000	5.3E-07	1.4E-07	17.8	22		18		1.10		4.8E-07	1.0E-05	No	No			
	50000+	2.1E-07	5.8E-08	17.8	22		18		1.10		1.9E-07	4.1E-08	No	No			
	50000++	1.1E-07	2.8E-08	17.8	22		18		1.10		9.6E-08	2.0E-08	No	No			
**Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Barmachani 1958																	
***Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																	

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Green frog risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			green frog tadpole										
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
	7500	1.1E-05	1.8E-06	17.6	22	18	1800	1.10	1.4E-02	9.6E-06	1.3E-04	No	No
	10000	5.3E-06	9.0E-07	17.6	22	18	1800	1.10	1.4E-02	4.8E-06	6.9E-05	No	No
	18000	2.1E-06	3.8E-07	17.6	22	18	1800	1.10	1.4E-02	2.9E-06	2.9E-05	No	No
	30000	1.1E-06	1.8E-07	17.6	22	18	1800	1.10	1.4E-02	9.6E-07	1.3E-05	No	No
	50000	5.3E-07	9.0E-08	17.6	22	18	1800	1.10	1.4E-02	4.8E-07	6.9E-06	No	No
	50000+	2.1E-07	3.8E-08	17.6	22	18	1800	1.10	1.4E-02	1.9E-07	2.9E-06	No	No
	50000++	1.1E-07	1.8E-08	17.6	22	18	1800	1.10	1.4E-02	9.6E-08	1.3E-06	No	No
**Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
***Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													

Pasquill Category E

Yellowbelly Racers

INTAKE PARAMETERS FOR YELLOWBELLY RACERS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

RISK PARAMETERS FOR YELLOWBELLY RACERS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Yellowbelly Racer Egg - Intake

Racer Intake, RCP

[illegible]

Pasquill Category E

Racer intake, OPTM

Static Smoke	racer egg	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
		7500	0.01	0.0022	1	7.1	0.25	0.0052	2020	2.8E-08
		10000	0.005	0.0022	1	7.1	0.25	0.0052	2020	1.9E-08
		18000	0.002	0.0022	1	7.1	0.25	0.0052	2020	5.1E-07
		30000	0.001	0.0022	1	7.1	0.25	0.0052	2020	2.8E-07
		50000	0.0005	0.0022	1	7.1	0.25	0.0052	2020	1.9E-07
		50000+	0.0002	0.0022	1	7.1	0.25	0.0052	2020	5.1E-08
		50000++	0.0001	0.0022	1	7.1	0.25	0.0052	2020	2.8E-08

Pasquill Category E

Racer intake, EPTM

[illegible]

Pasquill Category E

Racer Intake, RCP

Mobile Smoke - Musgrave Hollow	racer egg	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.0022	1	35.2	0.25	0.0052	2920	1.3E-05
	10000	0.005	0.0022	1	35.2	0.25	0.0052	2920	6.4E-06
	18000	0.002	0.0022	1	35.2	0.25	0.0052	2920	2.5E-06
	30000	0.001	0.0022	1	35.2	0.25	0.0052	2920	1.3E-06
	50000	0.0005	0.0022	1	35.2	0.25	0.0052	2920	6.4E-07
	50000+	0.0002	0.0022	1	35.2	0.25	0.0052	2920	2.5E-07
	50000++	0.0001	0.0022	1	35.2	0.25	0.0052	2920	1.3E-07

Pasquill Category E

[illegible]

Pasquill Category E

Racer intake, EPTM

			racer egg												
		Fog Oil Concentration (μm^2)	Skin Surface Area (m^2)	Abs	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose ($\mu\text{g}/\text{kg}\cdot\text{day}$)						
Dermal Absorption			0.0022			0.25	0.0052								
	7500	0.01	0.0022	1	16.3	0.25	0.0052	2920	5.0E-08						
	10000	0.005	0.0022	1	16.3	0.25	0.0052	2920	3.0E-08						
	18000	0.002	0.0022	1	16.3	0.25	0.0052	2920	1.2E-08						
	30000	0.001	0.0022	1	16.3	0.25	0.0052	2920	5.0E-07						
	50000	0.0005	0.0022	1	16.3	0.25	0.0052	2920	3.0E-07						
	50000+	0.0002	0.0022	1	16.3	0.25	0.0052	2920	1.2E-07						
	50000++	0.0001	0.0131	1	16.3	8	0.25	2920	2.3E-07						

Pasquill Category E

Racer Intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		racer egg								
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01		0.0022	1	17.6	0.25	0.0052	2920	6.4E-06
	10000	0.005		0.0022	1	17.6	0.25	0.0052	2920	3.2E-06
	18000	0.002		0.0022	1	17.6	0.25	0.0052	2920	1.3E-06
	30000	0.001		0.0022	1	17.6	0.25	0.0052	2920	6.4E-07
	50000	0.0005		0.0022	1	17.6	0.25	0.0052	2920	3.2E-07
	50000+	0.0002		0.0022	1	17.6	0.25	0.0052	2920	1.3E-07
	50000++	0.0001		0.0022	1	17.6	0.25	0.0052	2920	6.4E-08

Pasquill Category E

Mobile Smoke - Ballard Hollow or Wolf Hollow		reaser egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dormally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.0022	1	12.7	0.25	0.0052	2920	4.6E-06
	10000	0.005	0.0022	1	12.7	0.25	0.0052	2920	2.3E-06
	18000	0.002	0.0022	1	12.7	0.25	0.0052	2920	9.2E-07
	30000	0.001	0.0022	1	12.7	0.25	0.0052	2920	4.6E-07
	50000	0.0005	0.0022	1	12.7	0.25	0.0052	2920	2.3E-07
	50000+	0.0002	0.0022	1	12.7	0.25	0.0052	2920	9.2E-08
	50000++	0.0001	0.0131	1	12.7	8	0.25	2920	1.6E-07

Pasquill Category E

Racer intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow			reacer egg								
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	7500	0.01	0.0022		1	8.2	0.25	0.0052	2920	3.0E-06	
	10000	0.005	0.0022		1	8.2	0.25	0.0052	2920	1.5E-06	
	18000	0.002	0.0022		1	8.2	0.25	0.0052	2920	5.9E-07	
	30000	0.001	0.0022		1	8.2	0.25	0.0052	2920	3.0E-07	
	50000	0.0005	0.0022		1	8.2	0.25	0.0052	2920	1.5E-07	
	50000+	0.0002	0.0022		1	8.2	0.25	0.0052	2920	5.9E-08	
	50000++	0.0001	0.0131		1	8.2	8	0.25	2920	1.2E-07	

Pasquill Category E

Racer Intake, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
	Distance (m)	Fog Oil Concentration (μm^3)	Skin Surface Area (m^2)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose ($\mu\text{g/kg-day}$)
Dermal Absorption									
	7500	0.01	0.0022	1	22.0	0.25	0.0052	2920	8.0E-06
	10000	0.005	0.0022	1	22.0	0.25	0.0052	2920	4.0E-06
	18000	0.002	0.0022	1	22.0	0.25	0.0052	2920	1.8E-06
	30000	0.001	0.0022	1	22.0	0.25	0.0052	2920	8.0E-07
	50000	0.0005	0.0022	1	22.0	0.25	0.0052	2920	4.0E-07
	50000+	0.0002	0.0022	1	22.0	0.25	0.0052	2920	1.8E-07
	50000++	0.0001	0.0022	1	22.0	0.25	0.0052	2920	8.0E-08

Racer Intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)		racer egg								
	Distance (m)	Fog Oil Concentration (g/m ²)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (µg/kg-day)
Dermal Absorption										
	7500	0.01		0.0022	1	10.2	0.25	0.0052	2020	3.7E-08
	10000	0.005		0.0022	1	10.2	0.25	0.0052	2020	1.8E-08
	18000	0.002		0.0022	1	10.2	0.25	0.0052	2020	7.4E-07
	30000	0.001		0.0022	1	10.2	0.25	0.0052	2020	3.7E-07
	50000	0.0005		0.0022	1	10.2	0.25	0.0052	2020	1.8E-07
	50000+	0.0002		0.0022	1	10.2	0.25	0.0052	2020	7.4E-08
	50000++	0.0001		0.0131	1	10.2	8	0.25	2020	1.5E-07

Pasquill Category E

Racer Intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			reacer egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption	7500	0.01	0.0022	1		26.4	0.25	0.0052	2620	9.6E-06
	10000	0.005	0.0022	1		26.4	0.25	0.0052	2620	4.8E-06
	18000	0.002	0.0022	1		26.4	0.25	0.0052	2620	1.9E-06
	30000	0.001	0.0022	1		26.4	0.25	0.0052	2620	9.6E-07
	50000	0.0005	0.0022	1		26.4	0.25	0.0052	2620	4.8E-07
	50000+	0.0002	0.0022	1		26.4	0.25	0.0052	2620	1.9E-07
	50000++	0.0001	0.0022	1		26.4	0.25	0.0052	2620	9.6E-08

Pasquill Category E

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			racer egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01	0.0022		1	19.0	0.25	0.0052	2920	6.9E-06
	10000	0.005	0.0022		1	19.0	0.25	0.0052	2920	3.4E-06
	18000	0.002	0.0022		1	19.0	0.25	0.0052	2920	1.4E-06
	30000	0.001	0.0022		1	19.0	0.25	0.0052	2920	6.9E-07
	50000	0.0005	0.0022		1	19.0	0.25	0.0052	2920	3.4E-07
	50000+	0.0002	0.0022		1	19.0	0.25	0.0052	2920	1.4E-07
	50000++	0.0001	0.0131		1	19.0	8	0.25	2920	2.7E-07

Racer intake, EPTM

[illegible]

Pasquill Category E

Yellowbelly Racer Egg - Risk

Static Smoke	Distance (m)	Daily/Acute Intake Value (g/m ³)	racor egg Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	0.0131	6.0E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	4.5E-06	No	No
	10000	5.0E-03	0.0131	3.0E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	2.2E-06	No	No
	18000	2.0E-03	0.0131	1.2E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	8.9E-07	No	No
	30000	1.0E-03	0.0131	6.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	4.5E-07	No	No
	50000	5.0E-04	0.0131	3.0E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.2E-07	No	No
	50000++	2.0E-04	0.0131	1.2E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	8.9E-08	No	No
	50000++	1.0E-04	0.0131	6.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	4.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	racor egg Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	0.0131	2.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	1.8E-06	No	No
	10000	5.0E-03	0.0131	1.3E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	9.5E-07	No	No
	18000	2.0E-03	0.0131	5.1E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	3.8E-07	No	No
	30000	1.0E-03	0.0131	2.6E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	1.9E-07	No	No
	50000	5.0E-04	0.0131	1.3E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	9.5E-08	No	No
	50000+	2.0E-04	0.0131	5.1E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	3.8E-08	No	No
	50000++	1.0E-04	0.0131	2.6E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	1.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category E

Racer risk, EPTM

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	racor egg	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption															
	7500	1.0E-02	0.0131	0.0131	3.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	2.5E-07	No	No
	10000	5.0E-03	0.0131	0.0131	1.7E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	1.2E-07	No	No
	18000	2.0E-03	0.0131	0.0131	6.6E-08	2	216	16	160	0.13	1.4E+00	1.6E-02	4.0E-08	No	No
	30000	1.0E-03	0.0131	0.0131	3.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	2.5E-08	No	No
	50000	5.0E-04	0.0131	0.0131	1.7E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	1.2E-08	No	No
	50000+	2.0E-04	0.0131	0.0131	6.6E-09	2	216	16	160	0.13	1.4E+00	1.6E-03	4.0E-09	No	No
	50000++	1.0E-04	0.0131	0.0131	3.3E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	2.5E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Racer risk, RCP

Mobile Smoke - Musgrave Hollow			Daily Acute		Incar egg	Dermally absorbed dose (µg/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)													
Dermal Absorption															
	7500	1.0E-02	0.0131	1.3E-05	2	216	16	160	1.4E+00	8.0E-02	9.4E-08	No	No		
	10000	5.0E-03	0.0131	6.4E-06	216	16	160	1.4E+00	4.0E-02	4.7E-08	No	No			
	18000	2.9E-03	0.0131	2.5E-06	2	216	16	160	1.4E+00	1.6E-02	1.9E-08	No	No		
	30000	1.0E-03	0.0131	1.3E-06	2	216	16	160	1.4E+00	8.0E-03	9.4E-07	No	No		
	50000	5.0E-04	0.0131	6.4E-07	216	16	160	1.4E+00	4.0E-03	4.7E-07	No	No			
	50000+	2.0E-04	0.0131	2.5E-07	2	216	16	160	1.4E+00	1.6E-03	1.9E-07	No	No		
	50000++	1.0E-04	0.0131	1.3E-07	2	216	16	160	1.4E+00	8.0E-04	9.4E-08	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Pasquill Category E

Mobile Smoke - Musgrave Hollow		racer egg		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)										
7500	1.0E-02	0.0131	9.2E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	6.8E-06	No	No
10000	5.0E-03	0.0131	4.6E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	3.4E-06	No	No
18000	2.0E-03	0.0131	1.8E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.4E-06	No	No
30000	1.0E-03	0.0131	9.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	6.8E-07	No	No
50000	5.0E-04	0.0131	4.6E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	3.4E-07	No	No
50000+	2.0E-04	0.0131	1.8E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.4E-07	No	No
50000++	1.0E-04	0.0131	9.2E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1988													

Mobile Smoke - Musgrave Hollow			Racer egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Area (m ²)	Value (g/kg)												
Dermal Absorption																
7500	1.0E-02	0.0131	0.0131	5.0E-08	2	216	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.4E-08	No	No
10000	5.0E-03	0.0131	0.0131	3.0E-08	2	216	16	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.2E-08	No	No
18000	2.0E-03	0.0131	0.0131	1.2E-08	2	216	16	16	160	0.13	1.4E+00	1.4E+00	1.0E-02	8.8E-07	No	No
30000	1.0E-03	0.0131	0.0131	5.0E-07	2	216	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.4E-07	No	No
50000	5.0E-04	0.0131	0.0131	3.0E-07	2	216	16	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.2E-07	No	No
50000+	2.0E-04	0.0131	0.0131	1.2E-07	2	216	16	16	160	0.13	1.4E+00	1.4E+00	1.0E-03	8.8E-08	No	No
50000++	1.0E-04	0.0131	0.0131	2.3E-07	2	216	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Mobile Smoke - Ballard Hollow or Wolf Hollow		racer egg																	
Distance (m)	Daily ACUTE Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Dermal Absorption																			
7500	1.0E-02	0.0131	6.4E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	4.7E-08	No	No						
10000	5.0E-03	0.0131	3.2E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	2.4E-08	No	No						
18000	2.0E-03	0.0131	1.3E-08	2	216	16	160	0.13	1.4E+00	1.6E-02	9.4E-07	No	No						
30000	1.0E-03	0.0131	6.4E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	4.7E-07	No	No						
50000	5.0E-04	0.0131	3.2E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.4E-07	No	No						
50000+	2.0E-04	0.0131	1.3E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	9.4E-08	No	No						
50000++	1.0E-04	0.0131	6.4E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	4.7E-08	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Ballard Hollow or Wolf Hollow				Racer egg																					
Daily ACUTIS		Skin Surface Area (m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Intake Value (g/m ³)																								
Dermal Absorption																									
7500	1.0E-02	0.0131		4.8E-08		2		216		16		160		0.13		1.4E+00		8.0E-02		3.4E-06		No		No	
10000	5.0E-03	0.0131		2.3E-08		2		216		16		160		0.13		1.4E+00		4.0E-02		1.7E-06		No		No	
18000	2.0E-03	0.0131		9.2E-07		2		216		16		160		0.13		1.4E+00		1.6E-02		6.8E-07		No		No	
30000	1.0E-03	0.0131		4.6E-07		2		216		16		160		0.13		1.4E+00		8.0E-03		3.4E-07		No		No	
50000	5.0E-04	0.0131		2.3E-07		2		216		16		160		0.13		1.4E+00		4.0E-03		1.7E-07		No		No	
50000+	2.0E-04	0.0131		9.2E-08		2		216		16		160		0.13		1.4E+00		1.6E-03		6.8E-08		No		No	
50000++	1.0E-04	0.0131		1.8E-07		2		216		16		160		0.13		1.4E+00		8.0E-04		1.3E-07		No		No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

Mobile Smoke - Ballard Hollow or Wolf Hollow			DAILY ACETES		Inhaler egg	Dermally absorbed dose (g/kg-day)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)		Intake Value (g/m ³)															
Dermal Absorption																	
	7500		1.0E-02	0.0131		3.0E-08		2	216	18		0.13	1.4E+00	8.0E-02	2.2E-08	No	No
	10000		5.0E-03	0.0131		1.5E-08		2	216	18		0.13	1.4E+00	4.0E-02	1.1E-08	No	No
	18000		2.0E-03	0.0131		5.9E-07		2	216	18		0.13	1.4E+00	1.8E-02	4.4E-07	No	No
	30000		1.0E-03	0.0131		3.0E-07		2	216	18		0.13	1.4E+00	8.0E-03	2.2E-07	No	No
	50000		5.0E-04	0.0131		1.5E-07		2	216	18		0.13	1.4E+00	4.0E-03	1.1E-07	No	No
	50000+		2.0E-04	0.0131		5.9E-08		2	216	18		0.13	1.4E+00	1.8E-03	4.4E-08	No	No
	50000++		1.0E-04	0.0131		1.2E-07		2	216	18		0.13	1.4E+00	8.0E-04	8.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																	
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																	

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				Daily Active		Incar. egg		Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect												
Dermal Absorption																									
7500	1.0E-02	0.0131	8.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	5.9E-08	No	No												
10000	5.0E-03	0.0131	4.0E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	2.9E-08	No	No												
18000	2.0E-03	0.0131	1.6E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.2E-08	No	No												
30000	1.0E-03	0.0131	8.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	5.9E-07	No	No												
50000	5.0E-04	0.0131	4.0E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.9E-07	No	No												
50000+	2.0E-04	0.0131	1.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.2E-07	No	No												
50000++	1.0E-04	0.0131	8.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	5.9E-08	No	No												
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990

Racer risk, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										racer egg															
		Distance (m)	Intake Value (g/m ³)	Skin surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect										
Dermal Absorption																									
		7500	1.0E-02	0.0131	5.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	4.2E-06	No	No										
		10000	5.0E-03	0.0131	2.9E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	2.1E-06	No	No										
		18000	2.0E-03	0.0131	1.1E-06	2	216	16	160	0.13	1.4E+00	1.9E-02	8.5E-07	No	No										
		30000	1.0E-03	0.0131	5.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	4.2E-07	No	No										
		50000	5.0E-04	0.0131	2.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.1E-07	No	No										
		50000+	2.0E-04	0.0131	1.1E-07	2	216	16	160	0.13	1.4E+00	1.9E-03	8.5E-08	No	No										
		50000++	1.0E-04	0.0131	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.7E-07	No	No										
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

Pasquill Category E

Mobile Smoke - Cannon Range (Mush Puddle Hollow)				DBility ACETONE		racer egg		Chronic Toxicity Value (µ/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (µ/kg-day)	*Acute Toxicity Value (g/kg)	Chronic Toxicity Value (µ/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect												
Dermal Absorption																									
7500	1.0E-02	0.0131	3.7E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	2.7E-06	No	No												
10000	5.0E-03	0.0131	1.8E-06	216	2	16	160	0.13	1.4E+00	4.0E-02	1.4E-06	No	No												
18000	2.0E-03	0.0131	7.4E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	5.5E-07	No	No												
30000	1.0E-03	0.0131	3.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.7E-07	No	No												
50000	5.0E-04	0.0131	1.8E-07	216	2	16	160	0.13	1.4E+00	4.0E-03	1.4E-07	No	No												
50000+	2.0E-04	0.0131	7.4E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	5.5E-08	No	No												
50000+++	1.0E-04	0.0131	1.5E-07	2	216	16	160	0.13	1.4E+00	8.0E-04	1.1E-07	No	No												
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990

**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989

Racer risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield				racer egg		Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect										
Dermal Absorption																							
7500	1.0E-02	0.0131	9.0E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	7.1E-06	No	No										
10000	5.0E-03	0.0131	4.0E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	3.5E-06	No	No										
18000	2.0E-03	0.0131	1.9E-06	2	216	16	160	0.13	1.4E+00	1.6E-02	1.4E-06	No	No										
30000	1.0E-03	0.0131	9.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	7.1E-07	No	No										
50000	5.0E-04	0.0131	4.0E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	3.5E-07	No	No										
50000+	2.0E-04	0.0131	1.9E-07	2	216	16	160	0.13	1.4E+00	1.6E-03	1.4E-07	No	No										
50000+++	1.0E-04	0.0131	9.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	7.1E-08	No	No										
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																							
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																							

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			Daily Activity		Incar. egg	Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)										
Dermal Absorption														
7500	1.0E-02	0.0131	6.9E-08	2	216	16	180	0.13	1.4E+00	8.0E-02	5.1E-06	No	No	
10000	3.4E-03	0.0131	2.0E-06	2	216	16	180	0.13	1.4E+00	4.0E-02	2.5E-06	No	No	
18000	2.0E-03	0.0131	1.4E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	1.0E-06	No	No	
30000	1.0E-03	0.0131	6.9E-07	2	216	16	180	0.13	1.4E+00	8.0E-03	5.1E-07	No	No	
50000	5.0E-04	0.0131	3.4E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	2.5E-07	No	No	
50000+	2.0E-04	0.0131	1.4E-07	2	216	16	180	0.13	1.4E+00	1.6E-03	1.0E-07	No	No	
50000++	1.0E-04	0.0131	2.7E-07	2	216	16	180	0.13	1.4E+00	8.0E-04	2.0E-07	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1980														

Pasquill Category E

Racer risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield				Daily Activity		Inacer egg		Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
	Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)																			
Dermal Absorption																									
	7500	1.0E-02	0.0131	4.4E-08	2	216				16					0.13				1.4E+00	8.0E-02	3.9E-06	No	No		
	10000	5.0E-03	0.0131	2.2E-06	2	216				16					0.13				1.4E+00	4.0E-02	1.9E-06	No	No		
	18000	2.0E-03	0.0131	8.9E-07	2	216				16					0.13				1.4E+00	1.6E-02	6.9E-07	No	No		
	30000	1.0E-03	0.0131	4.4E-07	2	216				16					0.13				1.4E+00	8.0E-03	3.3E-07	No	No		
	50000	5.0E-04	0.0131	2.2E-07	2	216				16					0.13				1.4E+00	4.0E-03	1.6E-07	No	No		
	50000+	2.0E-04	0.0131	8.9E-08	2	216				16					0.13				1.4E+00	1.6E-03	6.9E-08	No	No		
	50000++	1.0E-04	0.0131	1.8E-07	2	216				16					0.13				1.4E+00	8.0E-04	1.3E-07	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

Pasquill Category E

Yellowbelly Racer Juvenile - Intake

Racer Intake, RCP

Static Smoke		racer juvenile		Fog Oil Concentration (g/m ³)		Intake Rate (m ² /day)									Daily Chronic Intake Value (g/kg-day)												
Distance (m)		Fog Oil Concentration (g/m ³)		Intake Rate (m ² /day)			Event IR		EF (days/yr)		ED (yrs)		BW (kg)		AT (days)												
				Daily IR			Hourly IR																				
Inhalation																											
		4000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			2.6E-07		
		5000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			1.3E-07		
		9000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			5.2E-08		
		14000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			2.6E-08		
		24000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			1.3E-08		
		50000		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			5.2E-09		
		50000+		2.1E-03			8.5E-05			1.3E-04			16.7			1			0.028			2020			2.6E-09		

[illegible]

Pasquill Category E

[illegible]

[illegible]

Pasquill Category E

[illegible]

Racer intake, EPTM

[illegible]

[illegible]

[illegible]

Racer Intake, EPTM

[illegible]

Racer intake, RCP

[illegible]

Pasquill Category E

[illegible]

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	2.7E-07
4000	0.005	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	1.4E-07
7000	0.002	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	5.5E-08
10000	0.001	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	2.7E-08
16000	0.0005	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	1.4E-08
30000	0.0002	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	5.5E-09
50000	0.0001	2.1E-03	8.8E-05	2.2E-04	10.2	1	0.028	2820	2.7E-09
Ingestion									
7500	0.01	0.139		2.2E+01	10.2	1	0.028	2820	1.3E-04
10000	0.005	0.139		2.2E+01	10.2	1	0.028	2820	8.4E-05
18000	0.002	0.139		2.2E+01	10.2	1	0.028	2820	2.5E-05
30000	0.001	0.139		2.2E+01	10.2	1	0.028	2820	1.3E-05
50000	0.0005	0.139		2.2E+01	10.2	1	0.028	2820	8.4E-06
50000+	0.0002	0.139		2.2E+01	10.2	1	0.028	2820	2.5E-06
50000++	0.0001	0.139		2.2E+01	10.2	1	0.0088	2820	4.0E-06
Dermal Absorption									
7500	0.01		0.00655	1	10.2	1	0.028	2820	8.2E-08
10000	0.005		0.00655	1	10.2	1	0.028	2820	4.1E-08
18000	0.002		0.00655	1	10.2	1	0.028	2820	1.8E-08
30000	0.001		0.00655	1	10.2	1	0.028	2820	8.2E-07
50000	0.0005		0.00655	1	10.2	1	0.028	2820	4.1E-07
50000+	0.0002		0.00655	1	10.2	1	0.028	2820	1.8E-07
50000++	0.0001		0.00655	1	10.2	1	0.0088	2820	2.8E-07

Racer intake, RCP

[illegible]

[illegible]

[illegible]

Yellowbelly Racer Juvenile - Risk

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	2.8E-07	60	0.1	16	16	180	3.75	1.3E-06	2.7E-03	2.0E-01	No	No
	5000	5.0E-03	1.3E-07	60	0.1	16	16	180	3.75	1.3E-06	1.3E-03	1.0E-01	No	No
	9000	2.0E-03	5.2E-08	60	0.1	16	16	180	3.75	1.3E-06	5.3E-04	4.1E-02	No	No
	14000	1.0E-03	2.8E-08	60	0.1	16	16	180	3.75	1.3E-06	2.7E-04	2.0E-02	No	No
	24000	5.0E-04	1.3E-08	60	0.1	16	16	180	3.75	1.3E-06	1.3E-04	1.0E-02	No	No
	50000	2.0E-04	5.2E-09	60	0.1	16	16	180	3.75	1.3E-06	5.3E-05	4.1E-03	No	No
	50000+	1.0E-04	2.8E-09	60	0.1	16	16	180	3.75	1.3E-06	2.7E-05	2.0E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992														
Ingestion														
	7500	4.6E-05	2.1E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05	4.2E-05	1.5E-02	No	No
	10000	2.3E-05	1.1E-04	17.6	22	16	1600	1.10	1.4E-02	2.1E-05	2.1E-05	7.9E-03	No	No
	18000	9.3E-06	4.5E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06	8.4E-06	3.3E-03	No	No
	30000	2.3E-06	2.4E-05	17.6	22	16	1600	1.10	1.4E-02	2.4E-06	2.4E-06	1.7E-03	No	No
	50000	9.3E-07	1.2E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06	2.1E-06	8.9E-04	No	No
	50000+	4.6E-07	5.1E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07	8.4E-07	3.7E-04	No	No
	50000++		2.8E-08	17.6	22	16	1600	1.10	1.4E-02	4.2E-07	4.2E-07	1.9E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brannachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	0.0131	2	216	16	180	0.13	1.4E+00	8.0E-02	8.0E-02	9.9E-06	No	No
	10000	5.0E-03	6.7E-06	2	216	16	180	0.13	1.4E+00	4.0E-02	4.0E-02	4.9E-06	No	No
	18000	2.0E-03	2.7E-06	2	216	16	180	0.13	1.4E+00	1.6E-02	1.6E-02	2.0E-06	No	No
	30000	1.0E-03	1.3E-06	2	216	16	180	0.13	1.4E+00	8.0E-03	8.0E-03	9.9E-07	No	No
	50000	5.0E-04	6.7E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	4.0E-03	4.9E-07	No	No
	50000+	2.0E-04	2.7E-07	2	216	16	180	0.13	1.4E+00	1.6E-03	1.6E-03	2.0E-07	No	No
	50000++	1.0E-04	1.3E-07	2	216	16	180	0.13	1.4E+00	8.0E-04	8.0E-04	9.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Racer risk, OPTM

Static Smoke	racer juvenile			Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Distance (m)	Daily Acute Intake Value (g/m ³)													
Inhalation															
	4000	1.0E-02	1.1E-07	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	2.7E-03	8.7E-02	No	No
	5000	5.0E-03	5.6E-08	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	1.3E-03	4.3E-02	No	No
	9000	2.0E-03	2.2E-08	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	5.3E-04	1.7E-02	No	No
	14000	1.0E-03	1.1E-08	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	2.7E-04	8.7E-03	No	No
	24000	5.0E-04	5.6E-09	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	1.3E-04	4.3E-03	No	No
	50000	2.0E-04	2.2E-09	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	5.3E-05	1.7E-03	No	No
	50000+	1.0E-04	1.1E-09	60	0.1	16	16	180	3.75	6.3E-04	1.3E-08	2.7E-05	8.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982															
	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion															
	7500	4.8E-05	8.8E-05	17.6	22	16	16	1800	1.10	1.4E-02	4.2E-05	8.4E-03	No	No	
	10000	2.3E-05	4.6E-05	17.6	22	16	16	1800	1.10	1.4E-02	2.1E-05	3.4E-03	No	No	
	18000	9.3E-06	1.9E-05	17.6	22	16	16	1800	1.10	1.4E-02	8.4E-06	1.4E-03	No	No	
	30000	4.8E-06	1.0E-05	17.6	22	16	16	1800	1.10	1.4E-02	4.2E-06	7.3E-04	No	No	
	50000	2.3E-06	5.2E-06	17.6	22	16	16	1800	1.10	1.4E-02	2.1E-06	3.8E-04	No	No	
	50000+	9.3E-07	2.2E-06	17.6	22	16	16	1800	1.10	1.4E-02	8.4E-07	1.8E-04	No	No	
	50000++	4.8E-07	1.1E-06	17.6	22	16	16	1800	1.10	1.4E-02	4.2E-07	8.2E-05	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption															
	7500	1.0E-02	0.0131	5.7E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	4.2E-08	No	No	
	10000	5.0E-03	0.0131	2.8E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	2.1E-08	No	No	
	18000	2.0E-03	0.0131	1.1E-08	2	216	16	160	0.13	1.4E+00	1.8E-02	8.4E-07	No	No	
	30000	1.0E-03	0.0131	5.7E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	4.2E-07	No	No	
	50000	5.0E-04	0.0131	2.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	2.1E-07	No	No	
	50000+	2.0E-04	0.0131	1.1E-07	2	216	16	160	0.13	1.4E+00	1.8E-03	8.4E-08	No	No	
	50000++	1.0E-04	0.0131	5.7E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	4.2E-08	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	racer juvenile		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		Daily Acute Intake Value (g/m ³)													
Inhalation															
	4000	1.0E-02		1.4E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-03	1.1E-02	No	No
	5000	5.0E-03		7.2E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-03	5.6E-03	No	No
	9000	2.0E-03		2.9E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-04	2.2E-03	No	No
	14000	1.0E-03		1.4E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-04	1.1E-03	No	No
	24000	5.0E-04		7.2E-10	80	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-04	5.6E-04	No	No
	50000	2.0E-04		2.9E-10	80	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-05	2.2E-04	No	No
	50000+	1.0E-04		1.4E-10	80	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-05	1.1E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500	4.8E-05		1.1E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-05	8.3E-04	No	No
	10000	2.3E-05		6.0E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	2.1E-05	4.3E-04	No	No
	18000	9.3E-06		2.5E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	8.4E-06	1.8E-04	No	No
	30000	4.8E-06		1.3E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-06	9.4E-05	No	No
	50000	2.3E-06		6.8E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	2.1E-06	4.8E-05	No	No
	50000+	9.3E-07		2.8E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	8.4E-07	2.0E-05	No	No
	50000++	4.8E-07		1.5E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-07	1.1E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500	1.0E-02	0.0131	7.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.4E-07	No	No
	10000	5.0E-03	0.0131	3.7E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.7E-07	No	No
	18000	2.0E-03	0.0131	1.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	1.1E-07	No	No
	30000	1.0E-03	0.0131	7.3E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.4E-08	No	No
	50000	5.0E-04	0.0131	3.7E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.7E-08	No	No
	50000+	2.0E-04	0.0131	1.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	1.1E-08	No	No
	50000++	1.0E-04	0.0131	7.3E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.4E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1960															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Musgrave Hollow			racer/juvenile															
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Inhalation																		
	3000	1.0E-02	9.2E-07	60	0.1	16	160	160	3.75	6.3E-04	2.7E-03	7.2E-01	No	No				
	4000	5.0E-03	4.6E-07	60	0.1	16	160	160	3.75	6.3E-04	1.3E-06	3.6E-01	No	No				
	7000	2.0E-03	1.8E-07	60	0.1	16	160	160	3.75	6.3E-04	5.3E-04	1.4E-01	No	No				
	10000	1.0E-03	9.2E-08	60	0.1	16	160	160	3.75	6.3E-04	1.3E-06	7.2E-02	No	No				
	16000	5.0E-04	4.6E-08	60	0.1	16	160	160	3.75	6.3E-04	1.3E-06	3.6E-02	No	No				
30000	2.0E-04	1.8E-08	60	0.1	16	160	160	3.75	6.3E-04	5.3E-05	1.4E-02	No	No					
50000	1.0E-04	9.2E-09	60	0.1	16	160	160	3.75	6.3E-04	1.3E-06	7.2E-03	No	No					
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																		
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																		
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Ingestion																		
	7500	4.6E-05	4.4E-04	17.6	22	16	1600	1800	1.10	1.4E-02	4.2E-05	3.2E-02	No	No				
	10000	2.3E-05	2.2E-04	17.6	22	16	1600	1600	1.10	1.4E-02	2.1E-05	1.6E-02	No	No				
	18000	9.3E-06	8.8E-05	17.6	22	16	1600	1600	1.10	1.4E-02	8.4E-06	6.4E-03	No	No				
	30000	4.6E-06	4.4E-05	17.6	22	16	1600	1600	1.10	1.4E-02	4.2E-06	3.2E-03	No	No				
	50000	2.3E-06	2.2E-05	17.6	22	16	1600	1600	1.10	1.4E-02	2.1E-06	1.6E-03	No	No				
50000+	9.3E-07	8.8E-06	17.6	22	16	1600	1600	1.10	1.4E-02	8.4E-07	6.4E-04	No	No					
50000++	4.6E-07	4.4E-06	17.6	22	16	1600	1600	1.10	1.4E-02	4.2E-07	3.2E-04	No	No					
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																		
**Chronic critical effect is gastrointestinal limitation. Critical Study: Lewis 1989																		
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Dermal Absorption																		
	7500	1.0E-02	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.1E-05	No	No				
	10000	5.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-05	No	No				
	18000	2.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.2E-06	No	No				
	30000	1.0E-03	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.1E-06	No	No				
	50000	5.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-06	No	No				
50000+	2.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.2E-07	No	No					
50000++	1.0E-04	0.0131	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.1E-07	No	No					
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																		
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																		

Mobile Smoke - Musgrave Hollow		racer/juvenile		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation																
3000	1.0E-02	6.6E-07	6.6E-07	80	0.1	16	16	16	16	180	180	1.3E-08	2.7E-03	5.2E-01	No	No
4000	5.0E-03	3.3E-07	3.3E-07	80	0.1	16	16	16	16	180	180	1.3E-08	1.3E-03	2.6E-01	No	No
7000	2.0E-03	1.3E-07	1.3E-07	80	0.1	16	16	16	16	180	180	1.3E-08	5.3E-04	1.0E-01	No	No
10000	1.0E-03	6.6E-08	6.6E-08	80	0.1	16	16	16	16	180	180	1.3E-08	2.7E-04	5.2E-02	No	No
16000	5.0E-04	3.3E-08	3.3E-08	80	0.1	16	16	16	16	180	180	1.3E-08	1.3E-04	2.6E-02	No	No
30000	2.0E-04	1.3E-08	1.3E-08	80	0.1	16	16	16	16	180	180	1.3E-08	5.3E-05	1.0E-02	No	No
50000	1.0E-04	6.6E-09	6.6E-09	80	0.1	16	16	16	16	180	180	1.3E-08	2.7E-05	5.2E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982																
Ingestion																
7500	4.6E-05	3.2E-04	3.2E-04	17.6	22	16	16	16	16	1800	1800	1.4E-02	4.2E-05	2.3E-02	No	No
10000	2.9E-05	1.6E-04	1.6E-04	17.6	22	16	16	16	16	1800	1800	1.4E-02	2.1E-05	1.1E-02	No	No
18000	9.3E-06	6.3E-05	6.3E-05	17.6	22	16	16	16	16	1800	1800	1.4E-02	8.4E-06	4.6E-03	No	No
30000	4.6E-06	3.2E-05	3.2E-05	17.6	22	16	16	16	16	1800	1800	1.4E-02	4.2E-06	2.3E-03	No	No
50000	2.9E-06	1.6E-05	1.6E-05	17.6	22	16	16	16	16	1800	1800	1.4E-02	2.1E-06	1.1E-03	No	No
50000++	9.3E-07	6.3E-06	6.3E-06	17.6	22	16	16	16	16	1800	1800	1.4E-02	8.4E-07	4.6E-04	No	No
50000++	4.6E-07	2.8E-06	2.8E-06	17.6	22	16	16	16	16	1800	1800	1.4E-02	4.2E-07	2.1E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramehan 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																
Dermal Absorption																
7500	1.0E-02	0.0131	2.0E-05	2	216	16	16	16	16	180	180	1.4E+00	8.0E-02	1.5E+05	No	No
10000	5.0E-03	0.0131	1.0E-05	2	216	16	16	16	16	180	180	1.4E+00	4.0E-02	7.5E+06	No	No
18000	2.0E-03	0.0131	4.1E-06	2	216	16	16	16	16	180	180	1.4E+00	1.6E-02	3.0E+06	No	No
30000	1.0E-03	0.0131	2.0E-06	2	216	16	16	16	16	180	180	1.4E+00	8.0E-03	1.5E+06	No	No
50000	5.0E-04	0.0131	1.0E-06	2	216	16	16	16	16	180	180	1.4E+00	4.0E-03	7.5E+07	No	No
50000+	2.0E-04	0.0131	4.1E-07	2	216	16	16	16	16	180	180	1.4E+00	1.6E-03	3.0E+07	No	No
50000++	1.0E-04	0.0131	6.5E-07	2	216	16	16	16	16	180	180	1.4E+00	8.0E-04	4.8E+07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Mobile Smoke - Musgrave Hollow					
		racer juvenile			
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment
Inhalation					
3000	1.0E-02	4.3E-07	60	0.1	16
4000	5.0E-03	2.1E-07	60	0.1	16
7000	2.0E-03	8.5E-08	60	0.1	16
10000	1.0E-03	4.3E-08	60	0.1	16
18000	5.0E-04	2.1E-08	60	0.1	16
30000	2.0E-04	8.5E-09	60	0.1	16
50000	1.0E-04	4.3E-09	60	0.1	16
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987					
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992					
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment
Ingestion					
7500	4.8E-05	2.0E-04	17.6	22	16
10000	2.3E-05	1.0E-04	17.6	22	16
18000	9.3E-06	4.1E-05	17.6	22	16
30000	4.8E-06	2.0E-05	17.6	22	16
23E+06	2.3E-06	1.0E-05	17.6	22	16
50000+	9.3E-07	4.1E-06	17.6	22	16
50000++	4.8E-07	1.8E-06	17.6	22	16
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Barmachani 1958					
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989					
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment
Dermal Absorption					
7500	1.0E-02	0.0131	2	216	16
10000	5.0E-03	0.0131	2	216	16
18000	2.0E-03	0.0131	2	216	16
30000	1.0E-03	0.0131	2	216	16
50000	5.0E-04	0.0131	2	216	16
50000+	2.0E-04	0.0131	2	216	16
50000++	1.0E-04	0.0131	2	216	16
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990					
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989					

Mobile Smoke - Ballard Hollow or Wolf Hollow			Racer Juvenile				**Chronic		Acute TRV		Chronic TRV		Chronic Dose		Acute Hazard		Chronic Hazard		Acute Effect		Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Inhalation																						
3000	1.0E-02	3.4E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-03	2.8E-01	No	No									
4000	5.0E-03	1.7E-07	80	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-03	1.3E-01	No	No									
7000	2.0E-03	6.8E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-04	5.2E-02	No	No									
10000	1.0E-03	3.4E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-04	2.8E-02	No	No									
16000	5.0E-04	1.7E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-04	1.3E-02	No	No									
30000	2.0E-04	6.8E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-05	5.2E-03	No	No									
50000	1.0E-04	3.4E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-05	2.8E-03	No	No									
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																						
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																						
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Ingestion																						
7500	4.8E-05	1.8E-04	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	1.1E-02	No	No									
10000	2.3E-05	7.9E-05	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	5.7E-03	No	No									
18000	9.3E-06	3.2E-05	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	2.3E-03	No	No									
30000	4.8E-06	1.8E-05	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	1.1E-03	No	No									
50000	2.3E-06	7.9E-06	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	5.7E-04	No	No									
50000+	9.3E-07	3.2E-06	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	2.3E-04	No	No									
50000++	4.8E-07	1.4E-06	17.8	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	1.0E-04	No	No									
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																						
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																						
Distance (m)	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Dermal Absorption																						
7500	1.0E-02	1.0E-05	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	7.5E-08	No	No									
10000	5.0E-03	5.1E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	3.8E-08	No	No									
18000	2.0E-03	2.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-08	No	No									
30000	1.0E-03	1.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	7.5E-07	No	No									
50000	5.0E-04	5.1E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	3.8E-07	No	No									
50000+	2.0E-04	2.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-07	No	No									
50000++	1.0E-04	3.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.4E-07	No	No									
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																						
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																						

Racer risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		racer juvenile																	
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Inhalation																			
3000	1.0E-02	2.2E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-03	1.7E-01	No	No						
4000	5.0E-03	1.1E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-06	1.3E-03	8.3E-02	No	No						
7000	2.0E-03	4.4E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06	5.3E-04	3.5E-02	No	No						
10000	1.0E-03	2.2E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-04	1.7E-02	No	No						
16000	5.0E-04	1.1E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06	1.3E-04	8.3E-03	No	No						
30000	2.0E-04	4.4E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-06	5.3E-05	3.5E-03	No	No						
50000	1.0E-04	2.2E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-05	1.7E-03	No	No						
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																			
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																			
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Ingestion																			
7500	4.6E-05	1.0E-04	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-05	7.4E-03	No	No						
10000	2.3E-05	5.1E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05	3.7E-03	No	No						
18000	9.3E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06	1.5E-03	No	No						
30000	4.6E-06	1.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06	7.4E-04	No	No						
50000	2.3E-06	5.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06	3.7E-04	No	No						
50000+	9.3E-07	2.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	1.5E-04	No	No						
50000++	4.6E-07	9.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	8.6E-05	No	No						
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																			
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																			
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Dermal Absorption																			
7500	1.0E-02	6.5E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.8E-06	No	No						
10000	5.0E-03	3.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.4E-06	No	No						
18000	2.0E-03	1.3E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	9.7E-07	No	No						
30000	1.0E-03	6.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.8E-07	No	No						
50000	5.0E-04	3.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.4E-07	No	No						
50000+	2.0E-04	1.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	9.7E-08	No	No						
50000++	1.0E-04	6.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.5E-07	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1960																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Racer risk, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	5.9E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-06
4000	5.0E-03	2.9E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-06
7000	2.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-06
10000	1.0E-03	5.9E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06
16000	5.0E-04	2.9E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06
30000	2.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-06
50000	1.0E-04	5.9E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-06
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Ingestion									
7500	4.8E-05	2.7E-04	17.6	22	16	1600	1.10	1.4E-02	4.2E-05
10000	2.3E-05	1.4E-04	17.6	22	16	1600	1.10	1.4E-02	2.1E-05
18000	9.3E-06	5.5E-05	17.6	22	16	1600	1.10	1.4E-02	8.4E-06
30000	4.8E-06	2.7E-05	17.6	22	16	1600	1.10	1.4E-02	4.2E-06
50000	2.3E-06	1.4E-05	17.6	22	16	1600	1.10	1.4E-02	2.1E-06
50000+	9.3E-07	5.5E-06	17.6	22	16	1600	1.10	1.4E-02	8.4E-07
50000++	4.8E-07	2.7E-06	17.6	22	16	1600	1.10	1.4E-02	4.2E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)
Dermal Absorption									
7500	1.0E-02	1.8E-05	2	216	16	160	0.13	1.4E+00	8.0E-02
10000	5.0E-03	8.8E-06	2	216	16	160	0.13	1.4E+00	4.0E-02
18000	2.0E-03	3.5E-06	2	216	16	160	0.13	1.4E+00	1.8E-02
30000	1.0E-03	1.8E-06	2	216	16	160	0.13	1.4E+00	8.0E-03
50000	5.0E-04	8.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-03
50000+	2.0E-04	3.5E-07	2	216	16	160	0.13	1.4E+00	1.8E-03
50000++	1.0E-04	1.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Pasquill Category E

Racer risk, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)											
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Chronic TRV (g/m ³)	Chronic TRV Uncertainty Adjustment	Acute TRV Uncertainty Adjustment
Inhalation											
	3000	1.0E-02	4.2E-07	60	0.1	18	180	3.75	6.3E-04	1.3E-08	2.7E-03
	4000	5.0E-03	2.1E-07	60	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-03
	7000	2.0E-03	8.5E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-04
	10000	1.0E-03	4.2E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-08	3.2E-02
	16000	5.0E-04	2.1E-08	60	0.1	16	160	3.75	6.3E-04	1.3E-08	1.3E-04
30000	2.0E-04	8.5E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-08	5.3E-05	
50000	1.0E-04	4.2E-09	60	0.1	16	160	3.75	6.3E-04	1.3E-08	2.7E-05	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992											
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)	Chronic TRV Uncertainty Adjustment	Acute TRV Uncertainty Adjustment
Ingestion											
	7500	4.6E-05	2.0E-04	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	4.2E-05
	10000	2.3E-05	9.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-05
	18000	9.3E-06	3.9E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-06
	30000	4.6E-06	2.0E-05	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-06
	50000	2.3E-06	9.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	2.1E-06
50000+	9.3E-07	3.9E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.4E-07	
50000++	4.6E-07	8.3E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	4.2E-07	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989											
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)	Chronic TRV Uncertainty Adjustment	Acute TRV Uncertainty Adjustment
Dermal Absorption											
	7500	1.0E-02	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02
	10000	5.0E-03	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02
	18000	2.0E-03	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02
	30000	1.0E-03	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03
	50000	5.0E-04	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03
50000+	2.0E-04	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	
50000++	1.0E-04	0.0131	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	7.1E-07	60	0.1	16	16	180	3.75	1.3E-06	2.7E-03	5.4E-01	No	No
	4000	5.0E-03	3.5E-07	60	0.1	16	16	180	3.75	1.3E-06	1.3E-03	2.7E-01	No	No
	7000	2.0E-03	1.4E-07	60	0.1	16	16	180	3.75	1.3E-06	5.3E-04	1.1E-01	No	No
	10000	1.0E-03	7.1E-08	60	0.1	16	16	180	3.75	1.3E-06	2.7E-04	5.4E-02	No	No
	16000	5.0E-04	3.5E-08	60	0.1	16	16	180	3.75	1.3E-06	1.3E-04	2.7E-02	No	No
	30000	2.0E-04	1.4E-08	60	0.1	16	16	180	3.75	1.3E-06	5.3E-05	1.1E-02	No	No
	50000	1.0E-04	7.1E-09	60	0.1	16	16	180	3.75	1.3E-06	2.7E-05	5.4E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	4.8E-05	3.3E-04	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-05	2.4E-02	No	No
	10000	2.3E-05	1.6E-04	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-05	1.2E-02	No	No
	18000	9.3E-06	6.6E-05	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-06	4.8E-03	No	No
	30000	4.8E-06	3.3E-05	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-06	2.4E-03	No	No
	50000	2.3E-06	1.6E-05	17.6	22	16	16	1600	1.10	1.4E-02	2.1E-06	1.2E-03	No	No
	50000+	9.3E-07	6.6E-06	17.6	22	16	16	1600	1.10	1.4E-02	8.4E-07	4.8E-04	No	No
	50000++	4.8E-07	3.3E-06	17.6	22	16	16	1600	1.10	1.4E-02	4.2E-07	2.4E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1953														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	2.1E-05	2	216	16	16	180	0.13	1.4E+00	8.0E-02	1.6E-05	No	No
	10000	5.0E-03	1.1E-05	2	216	16	16	180	0.13	1.4E+00	4.0E-02	7.9E-06	No	No
	18000	2.0E-03	4.2E-06	2	216	16	16	180	0.13	1.4E+00	1.8E-02	3.1E-06	No	No
	30000	1.0E-03	2.1E-06	2	216	16	16	180	0.13	1.4E+00	8.0E-03	1.6E-06	No	No
	50000	5.0E-04	1.1E-06	2	216	16	16	180	0.13	1.4E+00	4.0E-03	7.9E-07	No	No
	50000+	2.0E-04	4.2E-07	2	216	16	16	180	0.13	1.4E+00	1.6E-03	3.1E-07	No	No
	50000++	1.0E-04	2.1E-07	2	216	16	16	180	0.13	1.4E+00	8.0E-04	1.6E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Bailey McCann Hollow or Babo Airfield									
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Chronic Effect
Inhalation									
3000	1.0E-02	5.1E-07	60	0.1	16	160	6.3E-04	2.7E-03	No
4000	5.0E-03	2.5E-07	60	0.1	16	160	6.3E-04	1.3E-03	No
7000	2.0E-03	1.0E-07	60	0.1	16	160	6.3E-04	5.3E-04	No
10000	1.0E-03	5.1E-08	60	0.1	16	160	6.3E-04	2.7E-04	No
16000	5.0E-04	2.5E-08	60	0.1	16	160	6.3E-04	1.3E-04	No
30000	2.0E-04	1.0E-08	60	0.1	16	160	6.3E-04	5.3E-05	No
50000	1.0E-04	5.1E-09	60	0.1	16	160	6.3E-04	2.7E-05	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic Effect
Ingestion									
7500	4.8E-05	2.4E-04	17.6	22	16	1600	1.4E-02	4.2E-05	No
10000	2.3E-05	1.2E-04	17.6	22	16	1600	1.4E-02	2.1E-05	No
18000	9.3E-06	4.7E-05	17.6	22	16	1600	1.4E-02	8.4E-06	No
30000	4.8E-06	2.4E-05	17.6	22	16	1600	1.4E-02	4.2E-06	No
50000	2.3E-06	1.2E-05	17.6	22	16	1600	1.4E-02	2.1E-06	No
50000+	9.3E-07	4.7E-06	17.6	22	16	1600	1.4E-02	8.4E-07	No
50000++	4.8E-07	2.1E-06	17.6	22	16	1600	1.4E-02	4.2E-07	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammahan 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic Effect
Dermal Absorption									
7500	1.0E-02	0.0131	1.5E-05	2	216	160	1.4E+00	8.0E-02	No
10000	5.0E-03	0.0131	7.6E-06	2	216	160	1.4E+00	4.0E-02	No
18000	2.0E-03	0.0131	3.0E-06	2	216	160	1.4E+00	1.6E-02	No
30000	1.0E-03	0.0131	1.5E-06	2	216	160	1.4E+00	8.0E-03	No
50000	5.0E-04	0.0131	7.6E-07	2	216	160	1.4E+00	4.0E-03	No
50000+	2.0E-04	0.0131	3.0E-07	2	216	160	1.4E+00	1.6E-03	No
50000++	1.0E-04	0.0131	1.5E-07	2	216	160	1.4E+00	8.0E-04	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	3.3E-07	80	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-03	2.5E-01	No	No
4000	5.0E-03	1.6E-07	80	0.1	16	160	3.75	6.3E-04	1.3E-06	1.3E-03	1.2E-01	No	No
7000	2.0E-03	6.6E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-06	5.3E-04	5.0E-02	No	No
10000	1.0E-03	3.3E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-04	2.5E-02	No	No
18000	5.0E-04	1.6E-08	80	0.1	16	160	3.75	6.3E-04	1.3E-06	1.3E-04	1.2E-02	No	No
30000	2.0E-04	6.6E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-06	5.3E-05	5.0E-03	No	No
50000	1.0E-04	3.3E-09	80	0.1	16	160	3.75	6.3E-04	1.3E-06	2.7E-05	2.5E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	4.6E-05	1.5E-04	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-05	1.1E-02	No	No
10000	2.3E-05	7.6E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	2.1E-05	5.6E-03	No	No
18000	9.3E-06	3.1E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	8.4E-06	2.2E-03	No	No
30000	4.6E-06	1.5E-05	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-06	1.1E-03	No	No
50000	2.3E-06	7.6E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	2.1E-06	5.6E-04	No	No
50000+	9.3E-07	3.1E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	8.4E-07	2.2E-04	No	No
50000++	4.6E-07	1.4E-06	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	4.2E-07	1.0E-04	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	9.8E-08	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	7.9E-06	No	No
10000	5.0E-03	4.9E-08	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	3.9E-06	No	No
18000	2.0E-03	2.0E-08	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	1.5E-06	No	No
30000	1.0E-03	9.8E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	7.9E-07	No	No
50000	5.0E-04	4.9E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	3.9E-07	No	No
50000+	2.0E-04	2.0E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	1.5E-07	No	No
50000++	1.0E-04	1.0E-07	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.9E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Northern Bobwhites

INTAKE PARAMETERS FOR NORTHERN BOBWHITES

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

RISK PARAMETERS FOR NORTHERN BOBWHITES

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Northern Bobwhite Egg - Intake

Northern bobwhite intake, RCP

Static Smoke	Distance (m)	quail egg	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yr)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500		0.01	0.00246	1	16.7	0.063	0.0063	3285	8.5E-07
	10000		0.005	0.00246	1	16.7	0.063	0.0063	3285	4.2E-07
	18000		0.002	0.00246	1	16.7	0.063	0.0063	3285	1.7E-07
	30000		0.001	0.00246	1	16.7	0.063	0.0063	3285	8.5E-08
	50000		0.0005	0.00246	1	16.7	0.063	0.0063	3285	4.2E-08
	50000+		0.0002	0.00246	1	16.7	0.063	0.0063	3285	1.7E-08
	50000++		0.0001	0.00246	1	16.7	0.063	0.0063	3285	8.5E-09

Northern bobwhite intake, OPTM

[illegible]

Pasquill Category E

Pasquill Category E

[illegible]

Northern bobwhite intake, RCP

Mobile Smoke - Musgrave Hollow		quail egg	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yr)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
	Distance (m)	Fog Oil Concentration (g/m ³)								
Dermal Absorption										
	7500	0.01	0.00246		1	35.2	0.063	0.0063	3285	1.8E-06
	10000	0.005	0.00246		1	35.2	0.063	0.0063	3285	8.9E-07
	16000	0.002	0.00246		1	35.2	0.063	0.0063	3285	3.9E-07
	30000	0.001	0.00246		1	35.2	0.063	0.0063	3285	1.8E-07
	50000	0.0005	0.00246		1	35.2	0.063	0.0063	3285	8.9E-08
	50000+	0.0002	0.00246		1	35.2	0.063	0.0063	3285	3.9E-08
	50000++	0.0001	0.00246		1	35.2	0.063	0.0063	3285	1.8E-08

Northern bobwhite intake, OPTM

Mobile Smoke - Musgrave Hollow	quail egg	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
		7500	0.01	0.00246	1	25.3	0.063	0.0093	3285	1.3E-06
		10000	0.005	0.00246	1	25.3	0.063	0.0093	3285	6.4E-07
		18000	0.002	0.00246	1	25.3	0.063	0.0093	3285	2.6E-07
		30000	0.001	0.00246	1	25.3	0.063	0.0093	3285	1.3E-07
		50000	0.0005	0.00246	1	25.3	0.063	0.0093	3285	6.4E-08
		50000++	0.0002	0.00246	1	25.3	0.063	0.0093	3285	2.6E-08
		50000++	0.0001	0.00246	1	25.3	0.063	0.0093	3285	1.3E-08

Pasquill Category E

Northern bobwhite intake, EPTM

Mobile Smoke - Musgrave Hollow	quail egg	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
		7500	0.01	0.00246	1	18.3	0.063	0.0063	3285	8.3E-07
		10000	0.005	0.00246	1	18.3	0.063	0.0063	3285	4.1E-07
		16000	0.002	0.00246	1	18.3	0.063	0.0063	3285	1.7E-07
		30000	0.001	0.00246	1	18.3	0.063	0.0063	3285	8.3E-08
		50000	0.0005	0.00246	1	18.3	0.063	0.0063	3285	4.1E-08
		50000+	0.0002	0.00246	1	18.3	0.063	0.0063	3285	1.7E-08
		50000++	0.0001	0.00246	1	18.3	0.063	0.0063	3285	8.3E-09

Northern bobwhite intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow			quail egg	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (µg/kg-day)
	Distance (m)	Fog Oil Concentration (g/m ³)									
Dermal Absorption											
	7500	0.01		0.00246		1	87.9	0.063	0.0063	3285	4.9E-06
	10000	0.005		0.00246		1	87.9	0.063	0.0063	3285	2.2E-06
	15000	0.002		0.00246		1	87.9	0.063	0.0063	3285	8.9E-07
	30000	0.001		0.00246		1	87.9	0.063	0.0063	3285	4.9E-07
	50000	0.0005		0.00246		1	87.9	0.063	0.0063	3285	2.2E-07
	50000+	0.0002		0.00246		1	87.9	0.063	0.0063	3285	8.9E-08
	50000++	0.0001		0.00246		1	87.9	0.063	0.0063	3285	4.9E-08

Northern bobwhite intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		quail egg								
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01	0.00246		1	12.7	0.063	0.0063	3285	6.4E-07
	10000	0.005	0.00246		1	12.7	0.063	0.0063	3285	3.2E-07
	18000	0.002	0.00246		1	12.7	0.063	0.0063	3285	1.3E-07
	30000	0.001	0.00246		1	12.7	0.063	0.0063	3285	6.4E-08
	50000	0.0005	0.00246		1	12.7	0.063	0.0063	3285	3.2E-08
	50000+	0.0002	0.00246		1	12.7	0.063	0.0063	3285	1.3E-08
	50000++	0.0001	0.00246		1	12.7	0.063	0.0063	3285	6.4E-09

Northern bobwhite intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow		quail egg	Fog Oil Concentration		Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermal Absorbed Dose (µg/kg-day)
	Distance (m)										
Dermal Absorption											
	7500		0.01		0.00246	1	8.2	0.063	0.0063	3285	4.1E-07
	10000		0.005		0.00246	1	8.2	0.063	0.0063	3285	2.1E-07
	15000		0.002		0.00246	1	8.2	0.063	0.0063	3285	8.3E-08
	30000		0.001		0.00246	1	8.2	0.063	0.0063	3285	4.1E-08
	50000		0.0005		0.00246	1	8.2	0.063	0.0063	3285	2.1E-08
	50000++		0.0002		0.00246	1	8.2	0.063	0.0063	3285	8.3E-09
	50000++		0.0001		0.00246	1	8.2	0.063	0.0063	3285	4.1E-09

Pasquill Category E

Northern bobwhite intake, RCP

Mobile Smoke - Cannon Range (Mush Puddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	quail egg	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01	0.00246		1	22.0	0.063	0.0063	3285	1.1E-06
	10000	0.005	0.00246		1	22.0	0.063	0.0063	3285	5.6E-07
	18000	0.002	0.00246		1	22.0	0.063	0.0063	3285	2.2E-07
	30000	0.001	0.00246		1	22.0	0.063	0.0063	3285	1.1E-07
	50000	0.0005	0.00246		1	22.0	0.063	0.0063	3285	5.6E-08
	50000+	0.0002	0.00246		1	22.0	0.063	0.0063	3285	2.2E-08
	50000++	0.0001	0.00246		1	22.0	0.063	0.0063	3285	1.1E-08

Pasquill Category E

Northern bobwhite intake, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)			quail egg						
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.00246	1	15.8	0.063	0.0063	3285	8.0E-07
	10000	0.005	0.00246	1	15.8	0.063	0.0063	3285	4.0E-07
	18000	0.002	0.00246	1	15.8	0.063	0.0063	3285	1.6E-07
	30000	0.001	0.00246	1	15.8	0.063	0.0063	3285	8.0E-08
	50000	0.0005	0.00246	1	15.8	0.063	0.0063	3285	4.0E-08
	50000+	0.0002	0.00246	1	15.8	0.063	0.0063	3285	1.6E-08
	50000++	0.0001	0.00246	1	15.8	0.063	0.0063	3285	8.0E-09

Northern bobwhite intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
				quail egg						
Dermal Absorption										
	7500	0.01	0.00246		1	10.2	0.063	0.0063	3285	5.2E-07
	10000	0.005	0.00246		1	10.2	0.063	0.0063	3285	2.6E-07
	18000	0.002	0.00246		1	10.2	0.063	0.0063	3285	1.0E-07
	30000	0.001	0.00246		1	10.2	0.063	0.0063	3285	5.2E-08
	50000	0.0005	0.00246		1	10.2	0.063	0.0063	3285	2.6E-08
	50000+	0.0002	0.00246		1	10.2	0.063	0.0063	3285	1.0E-08
	50000++	0.0001	0.00246		1	10.2	0.063	0.0063	3285	5.2E-09

Pasquill Category E

Northern bobwhite intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	quail egg		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
			Skin Surface Area (m ²)							
Dermal Absorption										
	7500	0.01		0.00246	1	26.4	0.063	0.0093	3285	1.3E-06
	10000	0.005		0.00246	1	26.4	0.063	0.0093	3285	6.7E-07
	18000	0.002		0.00246	1	26.4	0.063	0.0093	3285	2.7E-07
	30000	0.001		0.00246	1	26.4	0.063	0.0093	3285	1.3E-07
	50000	0.0005		0.00246	1	26.4	0.063	0.0093	3285	6.7E-08
	50000+	0.0002		0.00246	1	26.4	0.063	0.0093	3285	2.7E-08
	50000++	0.0001		0.00246	1	26.4	0.063	0.0093	3285	1.3E-08

Northern bobwhite intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield				quail egg								
	Distance (m)	Fog Oil Concentration (μm^3)	Skin Surface Area (m^2)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose ($\mu\text{g/kg-day}$)			
Dermal Absorption												
	7500	0.01	0.00246	1	19.0	0.063	0.0063	3285				9.6E-07
	10000	0.005	0.00246	1	19.0	0.063	0.0063	3285				4.8E-07
	18000	0.002	0.00246	1	19.0	0.063	0.0063	3285				1.9E-07
	30000	0.001	0.00246	1	19.0	0.063	0.0063	3285				9.6E-08
	50000	0.0005	0.00246	1	19.0	0.063	0.0063	3285				4.8E-08
	50000+	0.0002	0.00246	1	19.0	0.063	0.0063	3285				1.9E-08
	50000++	0.0001	0.00246	1	19.0	0.063	0.0063	3285				9.6E-09

Northern bobwhite intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babs Airfield										
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
				quail egg						
Dermal Absorption										
	7500	0.01			1	12.3	0.063	0.0093	3285	6.2E-07
	10000	0.005			1	12.3	0.063	0.0093	3285	3.1E-07
	18000	0.002			1	12.3	0.063	0.0093	3285	1.2E-07
	30000	0.001			1	12.3	0.063	0.0093	3285	6.2E-08
	50000	0.0005			1	12.3	0.063	0.0093	3285	3.1E-08
	50000+	0.0002			1	12.3	0.063	0.0093	3285	1.2E-08
	50000++	0.0001			1	12.3	0.063	0.0093	3285	6.2E-09

Pasquill Category E

Northern Bobwhite Egg - Risk

Static Smoke	Distance (m)	quail egg Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	3.2E-02	8.5E-07			16	160	0.13	1.4E+00	8.0E-02	6.3E-07	No	No
	10000	5.0E-03	3.2E-02	4.2E-07			16	160	0.13	1.4E+00	4.0E-02	3.1E-07	No	No
	18000	2.0E-03	3.2E-02	1.7E-07			16	160	0.13	1.4E+00	1.6E-02	1.3E-07	No	No
	30000	1.0E-03	3.2E-02	8.5E-08			16	160	0.13	1.4E+00	8.0E-03	6.3E-08	No	No
	50000	5.0E-04	3.2E-02	4.2E-08			16	160	0.13	1.4E+00	4.0E-03	3.1E-08	No	No
	50000+	2.0E-04	3.2E-02	1.7E-08			16	160	0.13	1.4E+00	1.6E-03	1.3E-08	No	No
	50000++	1.0E-04	3.2E-02	8.5E-09			16	160	0.13	1.4E+00	8.0E-04	6.3E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	3.2E-02	3.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	2.7E-07	No	No
	10000	5.0E-03	3.2E-02	1.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	1.3E-07	No	No
	18000	2.0E-03	3.2E-02	7.2E-08	2	216	16	160	0.13	1.4E+00	1.8E-02	5.3E-08	No	No
	30000	1.0E-03	3.2E-02	3.6E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	2.7E-08	No	No
	50000	5.0E-04	3.2E-02	1.8E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	1.3E-08	No	No
	50000+	2.0E-04	3.2E-02	7.2E-09	2	216	16	160	0.13	1.4E+00	1.8E-03	5.3E-09	No	No
	50000++	1.0E-04	3.2E-02	3.6E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	2.7E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily acute intake Value (g/m ²)	quail egg	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02		3.2E-02	4.7E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	3.4E-08	No	No
	10000	5.0E-03		3.2E-02	2.3E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	1.7E-08	No	No
	18000	2.0E-03		3.2E-02	9.3E-09	2	216	16	160	0.13	1.4E+00	1.6E-02	6.9E-09	No	No
	30000	1.0E-03		3.2E-02	4.7E-09	2	216	16	160	0.13	1.4E+00	8.0E-03	3.4E-09	No	No
	50000	5.0E-04		3.2E-02	2.3E-09	2	216	16	160	0.13	1.4E+00	4.0E-03	1.7E-09	No	No
	50000++	2.0E-04		3.2E-02	9.3E-10	2	216	16	160	0.13	1.4E+00	1.6E-03	6.9E-10	No	No
		1.0E-04		3.2E-02	4.7E-10	2	216	16	160	0.13	1.4E+00	8.0E-04	3.4E-10	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Musgrave Hollow			quail egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Active Intake (g/m ²)	Skin Surface Area (m ²)														
Dermal Absorption																
	7500	1.0E-02	3.2E-02	1.8E-06	2	216	16	16	160	0.13	1.4E+00	8.0E-02	1.3E-06	No	No	No
	10000	5.0E-03	3.2E-02	8.9E-07	2	216	16	16	160	0.13	1.4E+00	4.0E-02	6.6E-07	No	No	No
	18000	2.0E-03	3.2E-02	3.6E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-02	2.6E-07	No	No	No
	30000	1.0E-03	3.2E-02	1.8E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-03	1.3E-07	No	No	No
	50000	5.0E-04	3.2E-02	8.9E-08	2	216	16	16	160	0.13	1.4E+00	4.0E-03	6.6E-08	No	No	No
	50000+	2.0E-04	3.2E-02	3.6E-08	2	216	16	16	160	0.13	1.4E+00	1.6E-03	2.6E-08	No	No	No
50000++	1.0E-04	3.2E-02	1.8E-08	2	216	16	16	160	0.13	1.4E+00	8.0E-04	1.3E-08	No	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Northern bobwhite risk, OPTM

Mobile Smoke - Musgrave Hollow			quail egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin surface Area (m ²)													
Dermal Absorption															
7500	1.0E-02	3.2E-02	1.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	9.5E-07	No	No	No	No
10000	5.0E-03	3.2E-02	6.4E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	4.8E-07	No	No	No	No
18000	2.0E-03	3.2E-02	2.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	1.9E-07	No	No	No	No
30000	1.0E-03	3.2E-02	1.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	9.5E-08	No	No	No	No
50000	5.0E-04	3.2E-02	6.4E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	4.8E-08	No	No	No	No
50000+	2.0E-04	3.2E-02	2.6E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.9E-08	No	No	No	No
50000++	1.0E-04	3.2E-02	1.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	9.5E-09	No	No	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Pasquill Category E

Mobile Smoke - Musgrave Hollow						quail egg			*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Distance (m)	Daily Active Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)														
Dermal Absorption																		
		7500	1.0E-02	3.2E-02	8.3E-07			2	216	16	16	180	0.13	1.4E+00	8.0E-02	6.1E-07	No	No
		10000	5.0E-03	3.2E-02	4.1E-07			2	216	16	16	180	0.13	1.4E+00	4.0E-02	3.1E-07	No	No
		18000	2.0E-03	3.2E-02	1.7E-07			2	216	16	16	180	0.13	1.4E+00	1.6E-02	1.2E-07	No	No
		30000	1.0E-03	3.2E-02	8.3E-08			2	216	16	16	180	0.13	1.4E+00	8.0E-03	6.1E-08	No	No
		50000	5.0E-04	3.2E-02	4.1E-08			2	216	16	16	180	0.13	1.4E+00	4.0E-03	3.1E-08	No	No
		50000+	2.0E-04	3.2E-02	1.7E-08			2	216	16	16	180	0.13	1.4E+00	1.6E-03	1.2E-08	No	No
	50000++	1.0E-04	3.2E-02	8.3E-09			2	216	16	16	180	0.13	1.4E+00	8.0E-04	6.1E-09	No	No	
**Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																		
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																		

*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980

Mobile Smoke - Ballard Hollow or Wolf Hollow Daily AEDIS				quail egg																			
	Distance (m)	Intake Value (g/m ²)	Skin surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Dermal Absorption	7500	1.0E-02	3.2E-02	4.5E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	3.3E-08	No	No									
	10000	5.0E-03	3.2E-02	2.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	1.7E-06	No	No									
	18000	2.0E-03	3.2E-02	8.9E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	6.6E-07	No	No									
	30000	1.0E-03	3.2E-02	4.5E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	3.3E-07	No	No									
	50000	5.0E-04	3.2E-02	2.2E-07	2	216	16	160	0.13	1.4E+00	1.7E-07	1.7E-07	No	No									
	50000+	2.0E-04	3.2E-02	8.9E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	6.6E-08	No	No									
	50000++	1.0E-04	3.2E-02	4.5E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	3.3E-08	No	No									
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																							
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																							

Mobile Smoke - Ballard Hollow or Wolf Hollow			quail egg		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	DAILY ACTIONS		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)										
	Intake Value (g/m ²)													
Dermal Absorption														
	7500	1.0E-02	3.2E-02	6.4E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	4.8E-07	No	No
	10000	5.0E-03	3.2E-02	3.2E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	2.4E-07	No	No
	18000	2.0E-03	3.2E-02	1.3E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	9.5E-08	No	No
	30000	1.0E-03	3.2E-02	6.4E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	4.8E-08	No	No
	50000	5.0E-04	3.2E-02	3.2E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	2.4E-08	No	No
	50000+	2.0E-04	3.2E-02	1.3E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	9.5E-09	No	No
	50000++	1.0E-04	3.2E-02	6.4E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	4.8E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow		Daily Active Intake Value (g/m ²)	Skin Surface Area (m ²)	quail egg Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	3.2E-02	4.1E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	3.1E-07	No	No
	10000	5.0E-03	3.2E-02	2.1E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	1.9E-07	No	No
	18000	2.0E-03	3.2E-02	8.3E-08	2	216	16	160	0.13	1.4E+00	1.6E-02	6.1E-08	No	No
	30000	1.0E-03	3.2E-02	4.1E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	3.1E-08	No	No
	50000	5.0E-04	3.2E-02	2.1E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	1.9E-08	No	No
	50000+	2.0E-04	3.2E-02	8.3E-09	2	216	16	160	0.13	1.4E+00	1.6E-03	6.1E-09	No	No
	50000++	1.0E-04	3.2E-02	4.1E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	3.1E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern bobwhite risk, RCP

Mobile Smoke - Cannon Range (Mush Puddle Hollow)			Daily ACUTE		Dermally absorbed dose (µg/kg-day)	quail egg	*Chronic Toxicity Value (µg/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (µg/kg)	Chronic TRV (µg/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)													
Dermal Absorption															
	7500	1.0E-02	3.2E-02		1.1E-08		2	216	16	0.13	1.4E+00	8.0E-02	8.3E-07	No	No
	10000	5.0E-03	3.2E-02		5.0E-07			216	16	0.13	1.4E+00	4.0E-02	4.1E-07	No	No
	18000	2.0E-03	3.2E-02		2.2E-07		2	216	16	0.13	1.4E+00	1.6E-02	1.7E-07	No	No
	30000	1.0E-03	3.2E-02		1.1E-07		2	216	16	0.13	1.4E+00	8.0E-03	8.3E-08	No	No
	50000	5.0E-04	3.2E-02		5.0E-08		2	216	16	0.13	1.4E+00	4.0E-03	4.1E-08	No	No
	50000+	2.0E-04	3.2E-02		2.2E-08		2	216	16	0.13	1.4E+00	1.6E-03	1.7E-08	No	No
	50000++	1.0E-04	3.2E-02		1.1E-08		2	216	16	0.13	1.4E+00	8.0E-04	8.3E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Pasquill Category E

Northern bobwhite risk, OPTM

Mobile Smoke - Cannon Range (Mush Puddle Hollow)										quail egg															
Distance (m)	Daily ACUTES		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect											
	Intake Value (g/m ²)																								
Dermal Absorption																									
7500	1.0E-02	3.2E-02		8.0E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	5.9E-07	No	No											
10000	5.0E-03	3.2E-02		4.0E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	3.0E-07	No	No											
18000	2.0E-03	3.2E-02		1.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	1.2E-07	No	No											
30000	1.0E-03	3.2E-02		8.0E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	5.9E-08	No	No											
50000	5.0E-04	3.2E-02		4.0E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	3.0E-08	No	No											
50000+	2.0E-04	3.2E-02		1.6E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.2E-08	No	No											
50000++	1.0E-04	3.2E-02		8.0E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	5.9E-09	No	No											
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

Pasquill Category E

Mobile Smoke - Cannon Range (Marsh Puddle Hollow)					quail egg													
Distance (m)	Daily Acute		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
	Intake Value (g/m ³)																	
Dermal Absorption																		
7500	1.0E-02		3.2E-02	5.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	3.8E-07	No	No				
10000	5.0E-03		3.2E-02	2.6E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	1.9E-07	No	No				
18000	2.0E-03		3.2E-02	1.0E-07	2	216	16	160	0.13	1.4E+00	1.8E-02	7.7E-08	No	No				
30000	1.0E-03		3.2E-02	5.2E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	3.8E-08	No	No				
50000	5.0E-04		3.2E-02	2.6E-08	2	216	16	160	0.13	1.4E+00	1.8E-03	1.9E-08	No	No				
50000+	2.0E-04		3.2E-02	1.0E-08	2	216	16	160	0.13	1.4E+00	1.8E-03	7.7E-09	No	No				
50000++	1.0E-04		3.2E-02	5.2E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	3.8E-09	No	No				
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																		
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																		

Mobile Smoke - Bailey McCann Hollow or Babb Airfield															
	Daily Acute		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
	Distance (m)	Intake Value (g/m ³)													
Dermal Absorption															
	7500	1.0E-02	3.2E-02	1.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	9.9E-07	No	No	
	10000	5.0E-03	3.2E-02	6.7E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	5.0E-07	No	No	
	18000	2.0E-03	3.2E-02	2.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	2.0E-07	No	No	
	30000	1.0E-03	3.2E-02	1.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	9.9E-08	No	No	
	50000	5.0E-04	3.2E-02	6.7E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	5.0E-08	No	No	
	50000+	2.0E-04	3.2E-02	2.7E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	2.0E-08	No	No	
	50000++	1.0E-04	3.2E-02	1.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	9.9E-09	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Northern bobwhite risk, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield														
Distance (m)	Daily ACUBS		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Intake Value (g/m ³)	Intake Value (g/m ³)												
Dermal Absorption														
	7500	1.0E-02	3.2E-02	9.8E-07	2	216	16	160	0.13	1.4E+00	8.0E-02	7.1E-07	No	No
	10000	5.0E-03	3.2E-02	4.8E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	3.6E-07	No	No
	18000	2.0E-03	3.2E-02	1.9E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	1.4E-07	No	No
	30000	1.0E-03	3.2E-02	9.8E-08	2	216	16	160	0.13	1.4E+00	8.0E-03	7.1E-08	No	No
	50000	5.0E-04	3.2E-02	4.8E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	3.6E-08	No	No
	50000+	2.0E-04	3.2E-02	1.9E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.4E-08	No	No
	50000++	1.0E-04	3.2E-02	9.8E-09	2	216	16	160	0.13	1.4E+00	8.0E-04	7.1E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babo Airfield														
		Daily Acute		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)												
Dermal Absorption														
	7500	1.0E-02	3.2E-02	6.2E-07	2	216	16			1.4E+00	8.0E-02	4.6E-07	No	No
	10000	5.0E-03	3.2E-02	3.1E-07	2	216	16			1.4E+00	4.0E-02	2.3E-07	No	No
	18000	2.0E-03	3.2E-02	1.2E-07	2	216	16			1.4E+00	1.6E-02	9.2E-08	No	No
	30000	1.0E-03	3.2E-02	6.2E-08	2	216	16			1.4E+00	8.0E-03	4.6E-08	No	No
	50000	5.0E-04	3.2E-02	3.1E-08	2	216	16			1.4E+00	4.0E-03	2.3E-08	No	No
	50000+	2.0E-04	3.2E-02	1.2E-08	2	216	16			1.4E+00	1.6E-03	9.2E-09	No	No
	50000++	1.0E-04	3.2E-02	6.2E-09	2	216	16			1.4E+00	8.0E-04	4.6E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Northern Bobwhite Chick - Intake

[illegible]

[illegible]

Northern bobwhite intake, EPTM

Static Smoke		quail chicks															
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)								
		Daily IR	Hourly IR	Event IR													
Inhalation																	
4000	0.01	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	7.9E-09								
5000	0.005	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	4.0E-09								
6000	0.002	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	1.6E-09								
14000	0.001	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	7.9E-10								
24000	0.0005	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	4.0E-10								
50000	0.0002	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	1.6E-10								
50000+	0.0001	4.7E-02	2.0E-03	2.9E-03	0.9	0.058	0.06	3285	7.9E-11								
Distance (m)	Fog Oil Deposition (g/m ²)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)							
Ingestion																	
7500	0.01	6.0E-06	1.6E-06	7.5E-06	6.5E+00	0.9	0.058	0.06	3285	1.3E-06							
10000	0.005	3.0E-06	7.9E-07	3.9E-06	6.5E+00	0.9	0.058	0.06	3285	6.6E-06							
18000	0.002	1.2E-06	3.2E-07	1.5E-06	6.5E+00	0.9	0.058	0.06	3285	2.6E-06							
30000	0.001	6.0E-07	1.6E-07	7.5E-07	6.5E+00	0.9	0.058	0.06	3285	1.3E-06							
50000	0.0005	3.0E-07	7.9E-08	3.9E-07	6.5E+00	0.9	0.058	0.06	3285	6.6E-07							
50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	6.5E+00	0.9	0.058	0.06	3285	2.6E-07							
50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	6.5E+00	0.9	0.058	0.06	3285	1.3E-07							
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (day/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)								
Dermal Absorption																	
7500	0.01		0.0153	1	0.9	0.058	0.06	3285	4.1E-06								
10000	0.005		0.0153	1	0.9	0.058	0.06	3285	2.1E-06								
18000	0.002		0.0153	1	0.9	0.058	0.06	3285	8.3E-06								
30000	0.001		0.0153	1	0.9	0.058	0.06	3285	4.1E-06								
50000	0.0005		0.0153	1	0.9	0.058	0.06	3285	2.1E-06								
50000+	0.0002		0.0153	1	0.9	0.058	0.06	3285	8.3E-07								
50000++	0.0001		0.0153	1	0.9	0.058	0.06	3285	4.1E-07								

Pasquill Category E

Northern bobwhite intake, RCP

Mobile Smoke - Musgrave Hollow		quail chicks											
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
Inhalation			Daily IR	Hourly IR	Event IR								
	3000	0.01	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	5.1E-07			
	4000	0.005	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	2.5E-07			
	7000	0.002	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	1.0E-07			
	10000	0.001	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	5.1E-08			
	16000	0.0005	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	2.5E-08			
	30000	0.0002	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	1.0E-08			
	50000	0.0001	4.7E-02	2.0E-03	4.9E-03	35.2	0.058	0.06	3285	5.1E-09			
Ingestion			Prey SA (m ²)	Prey Weight (g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)			
	7500	0.01	6.0E-06	1.6E-06	7.5E-06	35.2	0.058	0.06	3285	5.1E-07			
	10000	0.005	3.0E-06	7.9E-07	3.8E-06	35.2	0.058	0.06	3285	2.5E-07			
	16000	0.002	1.2E-06	3.2E-07	1.5E-06	35.2	0.058	0.06	3285	1.0E-07			
	30000	0.001	6.0E-07	1.6E-07	7.5E-07	35.2	0.058	0.06	3285	5.1E-08			
	50000	0.0005	3.0E-07	7.9E-08	3.8E-07	35.2	0.058	0.06	3285	2.5E-08			
	50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	35.2	0.058	0.06	3285	1.0E-08			
	50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	35.2	0.058	0.06	3285	5.1E-09			
Dermal Absorption			Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
	7500	0.01	0.0153		1	35.2	0.058	0.06	3285	1.0E-08			
	10000	0.005	0.0153		1	35.2	0.058	0.06	3285	7.9E-07			
	16000	0.002	0.0153		1	35.2	0.058	0.06	3285	3.2E-07			
	30000	0.001	0.0153		1	35.2	0.058	0.06	3285	1.6E-07			
	50000	0.0005	0.0153		1	35.2	0.058	0.06	3285	7.9E-08			
	50000+	0.0002	0.0153		1	35.2	0.058	0.06	3285	3.2E-08			
	50000++	0.0001	0.0153		1	35.2	0.058	0.06	3285	1.6E-08			

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Northern bobwhite intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		quail chicks		Inhalation		Ingestion		Dermal Absorption	
Distance (m)	Fog Oil Concentration (g/m ³)	Daily IR	Hourly IR	Event IR	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Inhalation									
3000	0.01	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	2.9E-07
4000	0.005	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	1.3E-07
7000	0.002	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	5.1E-08
10000	0.001	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	2.5E-08
16000	0.0005	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	1.3E-08
30000	0.0002	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	5.1E-09
50000	0.0001	4.7E-02	2.0E-03	4.9E-03	17.8	0.058	0.06	3285	2.5E-09
Ingestion									
Ingestion									
7500	0.01	6.0E-08	7.5E-08	6.5E+00	87.9	0.058	0.06	3285	1.3E-08
10000	0.005	3.0E-08	3.9E-08	6.5E+00	87.9	0.058	0.06	3285	6.3E-07
18000	0.002	1.2E-08	1.5E-08	6.5E+00	87.9	0.058	0.06	3285	2.9E-07
30000	0.001	6.0E-07	7.5E-07	6.5E+00	87.9	0.058	0.06	3285	1.3E-07
50000	0.0005	3.0E-07	3.9E-07	6.5E+00	87.9	0.058	0.06	3285	6.3E-08
50000+	0.0002	1.2E-07	1.5E-07	6.5E+00	87.9	0.058	0.06	3285	2.9E-08
50000++	0.0001	6.0E-08	7.5E-08	6.5E+00	87.9	0.058	0.06	3285	1.3E-08
Dermal Absorption									
Dermal Absorption									
7500	0.01	0.0153		1	87.9	0.058	0.06	3285	4.0E-08
10000	0.005	0.0153		1	87.9	0.058	0.06	3285	2.0E-08
18000	0.002	0.0153		1	87.9	0.058	0.06	3285	7.9E-07
30000	0.001	0.0153		1	87.9	0.058	0.06	3285	4.0E-07
50000	0.0005	0.0153		1	87.9	0.058	0.06	3285	2.0E-07
50000+	0.0002	0.0153		1	87.9	0.058	0.06	3285	7.9E-08
50000++	0.0001	0.0153		1	87.9	0.058	0.06	3285	4.0E-08

Northern bobwhite intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow											
Distance (m)		Fog Oil Concentration (g/m ³)	quail chicks		Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
			Daily IR	Hourly IR	Event IR						
Inhalation											
	3000	0.01	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		1.9E-07
	4000	0.005	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		9.1E-08
	7000	0.002	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		3.0E-08
	10000	0.001	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		1.9E-08
	18000	0.0005	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		9.1E-09
	30000	0.0002	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		3.0E-09
	50000	0.0001	4.7E-02	2.0E-03	4.9E-03	12.7	0.058	0.06	3285		1.9E-09
Fog Oil Deposition											
Distance (m)		Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Ingestion											
	7500	0.01	6.0E-08	1.0E-08	7.5E-08	6.5E+00	12.7	0.058	0.06	3285	1.9E-07
	10000	0.005	3.0E-08	7.9E-07	3.8E-08	6.5E+00	12.7	0.058	0.06	3285	9.1E-08
	18000	0.002	1.2E-08	3.2E-07	1.5E-08	6.5E+00	12.7	0.058	0.06	3285	3.0E-08
	30000	0.001	6.0E-07	1.9E-07	7.5E-07	6.5E+00	12.7	0.058	0.06	3285	1.9E-08
	50000	0.0005	3.0E-07	7.9E-08	3.8E-07	6.5E+00	12.7	0.058	0.06	3285	9.1E-09
	50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	6.5E+00	12.7	0.058	0.06	3285	3.0E-09
	50000++	0.0001	6.0E-08	1.9E-08	7.5E-08	6.5E+00	12.7	0.058	0.06	3285	1.9E-09
</											

Northern bobwhite intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow																	
Distance (m)		Fog Oil Concentration (g/m ³)		quail chicks													

Pasquilli Category E

Northern bobwhite intake, RCP

Pasquill Category E

Northern bobwhite intake, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
		Daily IR	Hourly IR						
Inhalation									
3000	0.01	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
4000	0.005	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
7000	0.002	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
10000	0.001	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
18000	0.0005	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
30000	0.0002	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	
50000	0.0001	4.7E-02	2.0E-03	4.9E-03	15.8	0.058	0.06	3285	

Northern bobwhite intake, EPTM

[illegible]

Northern bobwhite intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ² /day)		quail chicks	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	3.6E-07
4000	0.005	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	1.9E-07
7000	0.002	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	7.6E-08
10000	0.001	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	3.8E-08
16000	0.0005	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	1.9E-08
30000	0.0002	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	7.6E-09
50000	0.0001	4.7E-02	2.0E-03	4.9E-03	26.4	0.056	0.06	3285	3.8E-09
Fog Oil									
Distance (m)	Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
					Daily IR				
7500	0.01	6.0E-06	1.6E-06	7.9E-06	6.5E+00	26.4	0.056	3285	3.6E-07
10000	0.005	3.0E-06	7.9E-07	3.9E-06	6.5E+00	26.4	0.056	3285	1.9E-07
18000	0.002	1.2E-06	3.2E-07	1.5E-06	6.5E+00	26.4	0.056	3285	7.6E-08
30000	0.001	6.0E-07	1.6E-07	7.9E-07	6.5E+00	26.4	0.056	3285	3.8E-08
50000	0.0005	3.0E-07	7.9E-08	3.9E-07	6.5E+00	26.4	0.056	3285	1.9E-08
50000++	0.0002	1.2E-07	3.2E-08	1.5E-07	6.5E+00	26.4	0.056	3285	7.6E-09
50000++	0.0001	6.0E-08	1.6E-08	7.9E-08	6.5E+00	26.4	0.056	3285	3.8E-09
Dermal Absorption									
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
7500	0.01	0.0153		1	26.4	0.056	0.06	3285	1.2E-06
10000	0.005	0.0153		1	26.4	0.056	0.06	3285	5.9E-07
18000	0.002	0.0153		1	26.4	0.056	0.06	3285	2.4E-07
30000	0.001	0.0153		1	26.4	0.056	0.06	3285	1.2E-07
50000	0.0005	0.0153		1	26.4	0.056	0.06	3285	5.9E-08
50000++	0.0002	0.0153		1	26.4	0.056	0.06	3285	2.4E-08
50000++	0.0001	0.0153		1	26.4	0.056	0.06	3285	1.2E-08

Pasquill Category E

[illegible]

Northern bobwhite intake, EPTM

[illegible]

Northern Bobwhite Chick - Risk

Northern bobwhite risk, RCP

Static Smoke	Distance (m)	quail chicks		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000	1.0E-02		1.4E-07	80	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-03	4.9E-03	No	No
	5000	5.0E-03		7.2E-08	80	0.1	16	160	3.75	6.3E-04	2.9E-05	1.3E-03	2.5E-03	No	No
	9000	2.0E-03		2.9E-08	80	0.1	16	160	3.75	6.3E-04	2.9E-05	5.3E-04	9.8E-04	No	No
	14000	1.0E-03		1.4E-08	80	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-04	4.9E-04	No	No
	24000	5.0E-04		7.2E-09	80	0.1	16	160	3.75	6.3E-04	2.9E-05	1.3E-04	2.5E-04	No	No
	50000	2.0E-04		2.9E-09	80	0.1	16	160	3.75	6.3E-04	2.9E-05	5.3E-05	9.8E-05	No	No
	50000+	1.0E-04		1.4E-09	80	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-05	4.9E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500	7.5E-06		2.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	1.8E-05	No	No
	10000	3.8E-06		1.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	8.8E-06	No	No
	18000	1.5E-06		4.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.5E-06	No	No
	30000	7.5E-07		2.4E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	1.8E-06	No	No
	50000	3.8E-07		1.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	8.8E-07	No	No
	50000+	1.5E-07		4.8E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.5E-07	No	No
	50000++	7.5E-08		2.4E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	1.8E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500	1.0E-02	3.2E-02	7.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	5.0E-07	No	No
	10000	5.0E-03	3.2E-02	3.8E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.8E-07	No	No
	18000	2.0E-03	3.2E-02	1.5E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	1.1E-07	No	No
	30000	1.0E-03	3.2E-02	7.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	5.0E-08	No	No
	50000	5.0E-04	3.2E-02	3.8E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.8E-08	No	No
	50000+	2.0E-04	3.2E-02	1.5E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	1.1E-08	No	No
	50000++	1.0E-04	3.2E-02	7.5E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	5.0E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Pasquilli Category E

quail chicks									
Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
	4000	1.0E-02	6.1E-08	60	0.1	16	160	3.75	6.3E-04
	5000	5.0E-03	3.1E-08	60	0.1	16	160	3.75	6.3E-04
	9000	2.0E-03	1.2E-08	60	0.1	16	160	3.75	6.3E-04
	14000	1.0E-03	6.1E-09	60	0.1	16	160	3.75	6.3E-04
	24000	5.0E-04	3.1E-09	60	0.1	16	160	3.75	6.3E-04
	50000	2.0E-04	1.2E-09	60	0.1	16	160	3.75	6.3E-04
	50000+	1.0E-04	6.1E-10	60	0.1	16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Ingestion	Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)
	7500	7.5E-06	1.0E-07	17.6	22	16	1600	1.10	1.4E-02
	10000	3.8E-06	5.1E-08	17.6	22	16	1600	1.10	1.4E-02
	18000	1.5E-06	2.0E-08	17.6	22	16	1600	1.10	1.4E-02
	30000	7.5E-07	1.0E-08	17.6	22	16	1600	1.10	1.4E-02
	50000	3.8E-07	5.1E-09	17.6	22	16	1600	1.10	1.4E-02
	50000+	1.5E-07	2.0E-09	17.6	22	16	1600	1.10	1.4E-02
	50000++	7.5E-08	1.0E-09	17.6	22	16	1600	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Dermal Absorption	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)
	7500	1.0E-02	3.2E-02	3.2E-07	2	216	16	160	0.13
	10000	5.0E-03	3.2E-02	1.6E-07	2	216	16	160	0.13
	18000	2.0E-03	3.2E-02	6.4E-08	2	216	16	160	0.13
	30000	1.0E-03	3.2E-02	3.2E-08	2	216	16	160	0.13
	50000	5.0E-04	3.2E-02	1.6E-08	2	216	16	160	0.13
	50000+	2.0E-04	3.2E-02	6.4E-09	2	216	16	160	0.13
	50000++	1.0E-04	3.2E-02	3.2E-09	2	216	16	160	0.13
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
Chronic Hazard Quotient	Acute Hazard Quotient	Chronic TRV (g/m ³)	Acute TRV (g/m ³)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Effect
2.1E-03	2.7E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
1.0E-03	1.3E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
4.2E-04	5.3E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
2.1E-04	2.7E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
1.0E-04	1.3E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
4.2E-05	5.3E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
2.1E-05	2.7E-05	6.3E-04	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
Chronic Hazard Quotient	Acute Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Effect
7.4E-08	8.9E-08	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
3.7E-08	3.4E-08	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
1.5E-08	1.4E-08	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
7.4E-07	8.9E-07	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
3.7E-07	3.4E-07	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
1.5E-07	1.4E-07	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
7.4E-08	8.9E-08	1.4E-02	16	1.4E-02	1.10	1.4E-02	1.10	1.4E-02	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									
Chronic Hazard Quotient	Acute Hazard Quotient	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Effect
2.4E-07	8.0E-02	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
1.2E-07	4.0E-02	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
4.7E-08	1.9E-02	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
2.4E-08	8.0E-03	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
1.2E-08	4.0E-03	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
4.7E-09	1.9E-03	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
2.4E-09	8.0E-04	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
1.2E-09	4.0E-04	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
4.7E-10	1.9E-04	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No
2.4E-10	8.0E-04	1.4E+00	16	1.4E+00	0.13	1.4E+00	16	1.4E+00	No

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
quail chicks														
Inhalation														
	4000	1.0E-02	7.9E-09	60	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-03	2.7E-04	No	No
	5000	5.0E-03	4.0E-09	60	0.1	16	160	3.75	6.3E-04	2.9E-05	1.3E-03	1.3E-04	No	No
	9000	2.0E-03	1.6E-09	60	0.1	16	160	3.75	6.3E-04	2.9E-05	5.3E-05	5.4E-05	No	No
	14000	1.0E-03	7.9E-10	60	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-04	2.7E-05	No	No
	24000	5.0E-04	4.0E-10	60	0.1	16	160	3.75	6.3E-04	2.9E-05	1.3E-04	1.3E-05	No	No
	50000	2.0E-04	1.6E-10	60	0.1	16	160	3.75	6.3E-04	2.9E-05	5.3E-05	5.4E-05	No	No
	50000++	1.0E-04	7.9E-11	60	0.1	16	160	3.75	6.3E-04	2.9E-05	2.7E-05	2.7E-06	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Ingestion														
	7500	7.5E-06	1.3E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	9.6E-07	No	No
	10000	3.8E-06	6.8E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.8E-07	No	No
	18000	1.5E-06	2.6E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.9E-07	No	No
	30000	7.5E-07	1.3E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	9.6E-08	No	No
	50000	3.8E-07	6.8E-10	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.8E-08	No	No
	50000+	1.5E-07	2.6E-10	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-08	No	No
	50000++	7.5E-08	1.3E-10	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.8E-08	9.6E-09	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	4.1E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	3.1E-08	No	No
	10000	5.0E-03	2.1E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-08	No	No
	18000	2.0E-03	8.3E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	6.1E-09	No	No
	30000	1.0E-03	4.1E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	3.1E-09	No	No
	50000	5.0E-04	2.1E-09	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-09	No	No
	50000+	2.0E-04	8.3E-10	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	6.1E-10	No	No
	50000++	1.0E-04	4.1E-10	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	3.1E-10	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		quail chicks		*Acute Toxicity Value (g/m ³)	*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	Value (g/m ³)											
Inhalation														
3000	1.0E-02	5.1E-07	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	2.7E-03	1.7E-02	No	No
4000	5.0E-03	2.5E-07	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	1.3E-03	8.6E-03	No	No
7000	2.0E-03	1.0E-07	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	5.3E-04	3.4E-03	No	No
10000	1.0E-03	5.1E-08	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	2.7E-04	1.7E-03	No	No
16000	5.0E-04	2.5E-08	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	1.3E-04	8.6E-04	No	No
30000	2.0E-04	1.0E-08	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	5.3E-05	3.4E-04	No	No
50000	1.0E-04	5.1E-09	60	0.1	16	160	160	3.75	6.3E-04	2.9E-05	2.7E-05	1.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
7500	7.5E-06	5.1E-07	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	6.8E-06	3.7E-05	No	No
10000	3.8E-06	2.5E-07	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	3.4E-06	1.8E-05	No	No
18000	1.0E-06	1.0E-07	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	1.4E-06	7.4E-06	No	No
30000	7.5E-07	5.1E-08	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	6.8E-07	3.7E-06	No	No
50000	3.8E-07	2.5E-08	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	3.4E-07	1.8E-06	No	No
50000++	1.9E-07	1.0E-08	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	1.4E-07	7.4E-07	No	No
50000++	7.5E-08	5.1E-09	17.6	22	16	1800	1800	1.10	1.4E-02	1.4E-02	6.8E-08	3.7E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
7500	1.0E-02	3.2E-02	2	216	16	160	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-08	No	No
10000	5.0E-03	1.6E-02	2	216	16	160	160	0.13	1.4E+00	1.4E+00	4.0E-02	5.9E-07	No	No
18000	2.0E-03	7.9E-07	2	216	16	160	160	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-07	No	No
30000	1.0E-03	3.2E-02	2	216	16	160	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-07	No	No
50000	5.0E-04	1.6E-07	2	216	16	160	160	0.13	1.4E+00	1.4E+00	4.0E-03	5.9E-08	No	No
50000++	2.0E-04	7.9E-08	2	216	16	160	160	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-08	No	No
50000++	1.0E-04	3.2E-02	2	216	16	160	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1960														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		quail chicks												
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)												
Inhalation														
	3000	1.0E-02	3.8E-07	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-03	1.2E-02	No	No
	4000	5.0E-03	1.8E-07	80	0.1	18	180	3.75	6.3E-04	1.3E-05	6.2E-03	6.2E-03	No	No
	7000	2.0E-03	7.3E-08	80	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-04	2.5E-03	No	No
	10000	1.0E-03	3.8E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-04	1.2E-03	No	No
	16000	1.8E-08	1.8E-08	80	0.1	18	180	3.75	6.3E-04	1.3E-05	6.2E-04	6.2E-04	No	No
	30000	2.0E-04	7.3E-09	80	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-05	2.5E-04	No	No
	50000	1.0E-04	3.8E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-05	1.2E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)												
Ingestion														
	7500	7.5E-06	3.7E-07	17.6	22	18	1800	1.10	1.4E-02	8.8E-08	2.7E-05	2.7E-05	No	No
	10000	3.8E-06	1.8E-07	17.6	22	18	1800	1.10	1.4E-02	3.4E-08	1.3E-05	1.3E-05	No	No
	18000	1.5E-06	7.3E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-08	5.3E-08	5.3E-08	No	No
	30000	7.5E-07	3.7E-08	17.6	22	18	1800	1.10	1.4E-02	8.8E-07	2.7E-08	2.7E-08	No	No
	50000	3.8E-07	1.8E-08	17.6	22	18	1800	1.10	1.4E-02	3.4E-07	1.3E-08	1.3E-08	No	No
	50000+	1.5E-07	7.3E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-07	5.3E-07	5.3E-07	No	No
	50000++	7.5E-08	3.7E-09	17.6	22	18	1800	1.10	1.4E-02	8.8E-08	2.7E-07	2.7E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)											
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	218	18	180	0.13	1.4E+00	8.0E-02	8.4E-07	8.4E-07	No	No
	10000	5.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	4.0E-02	4.2E-07	4.2E-07	No	No
	18000	2.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	1.8E-02	1.7E-07	1.7E-07	No	No
	30000	1.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	8.0E-03	8.4E-08	8.4E-08	No	No
	50000	5.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	4.0E-03	4.2E-08	4.2E-08	No	No
	50000+	2.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	1.8E-03	1.7E-08	1.7E-08	No	No
	50000++	1.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	8.0E-04	8.4E-08	8.4E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

[illegible]

Mobile Smoke - Ballard Hollow or Wolf Hollow		quail chicks											
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	2.5E-07	60	0.1	16	180	3.75	6.3E-04	2.9E-05	2.7E-03	8.8E-03	No	No
4000	5.0E-03	1.3E-07	80	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-03	4.3E-03	No	No
7000	2.0E-03	5.1E-08	80	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-04	1.7E-03	No	No
10000	1.0E-03	2.5E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-04	8.8E-04	No	No
16000	5.0E-04	1.3E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-04	4.3E-04	No	No
30000	2.0E-04	5.1E-09	80	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-05	1.7E-04	No	No
50000	1.0E-04	2.5E-09	80	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-05	8.8E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion													
7500	7.5E-06	1.3E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-06	9.2E-05	No	No
10000	3.8E-06	6.3E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-06	4.8E-05	No	No
18000	1.5E-06	2.5E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-06	1.9E-05	No	No
30000	7.5E-07	1.3E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	9.2E-06	No	No
50000	3.8E-07	6.3E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	4.8E-06	No	No
50000+	1.5E-07	2.5E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-06	No	No
50000++	7.5E-08	1.3E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	9.2E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1983													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.9E-06	No	No
10000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.5E-06	No	No
18000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	5.9E-07	No	No
30000	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.9E-07	No	No
50000	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.5E-07	No	No
50000+	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	5.9E-08	No	No
50000++	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.9E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow				quail chicks										
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	1.8E-07	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-03	6.2E-03	No	No
	4000	5.0E-03	9.1E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-03	3.1E-03	No	No
	7000	2.0E-03	3.6E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-04	1.2E-03	No	No
	10000	1.0E-03	1.8E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-04	6.2E-04	No	No
	18000	5.0E-04	9.1E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-04	3.1E-04	No	No
30000	2.0E-04	3.6E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-05	1.2E-04	No	No	
50000	1.0E-04	1.8E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-05	6.2E-05	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	7.5E-08	1.8E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.3E-05	No	No
	10000	3.8E-08	9.1E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-08	6.8E-06	No	No
	18000	1.5E-08	3.6E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-08	2.7E-06	No	No
	30000	7.5E-07	1.8E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	1.3E-06	No	No
	50000	3.8E-07	9.1E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	6.8E-07	No	No
50000+	1.5E-07	3.6E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	2.7E-07	No	No	
50000++	7.5E-08	1.8E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	1.3E-07	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	4.2E-07	No	No
	10000	5.0E-03	2.9E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	2.1E-07	No	No
	18000	2.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	1.8E-02	8.4E-08	No	No
	30000	1.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	4.2E-08	No	No
	50000	5.0E-04	2.9E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	2.1E-08	No	No
50000+	2.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	1.8E-03	8.4E-08	No	No	
50000++	1.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	4.2E-09	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow						quail chicks								
Distance (m)	Daily Acute Intake Value (g/m ²)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ²)	**Chronic Toxicity Value (g/m ²)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ²)	Chronic TRV (g/m ²)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	1.2E-07	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-03	4.0E-03	No	No
	4000	5.0E-03	5.9E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-03	2.0E-03	No	No
	7000	2.0E-03	2.4E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-04	8.0E-04	No	No
	10000	1.0E-03	1.2E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-04	4.0E-04	No	No
	16000	5.0E-04	5.9E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	1.3E-04	2.0E-04	No	No
	30000	2.0E-04	2.4E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	5.3E-05	8.0E-05	No	No
	50000	1.0E-04	1.2E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05	2.7E-05	4.0E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1967														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Drner et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	7.5E-06	1.2E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-06	8.9E-06	No	No
	10000	3.8E-06	5.9E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-06	4.3E-06	No	No
	18000	1.5E-06	2.4E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-06	1.7E-06	No	No
	30000	7.5E-07	1.2E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	8.9E-07	No	No
	50000	3.8E-07	5.9E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	4.3E-07	No	No
	50000+	1.5E-07	2.4E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	1.7E-07	No	No
	50000++	7.5E-08	1.2E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	8.9E-08	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-07	No	No
	10000	5.0E-03	1.9E-07	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.4E-07	No	No
	18000	2.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	1.8E-02	5.4E-08	No	No
	30000	1.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-08	No	No
	50000	5.0E-04	1.9E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.4E-08	No	No
	50000+	2.0E-04	3.2E-02	2	216	18	180							

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)
Inhalation									
3000	1.0E-02	3.2E-07	60	0.1	18	180	3.75	6.3E-04	2.9E-05
4000	5.0E-03	1.6E-07	60	0.1	18	180	3.75	6.3E-04	2.9E-05
7000	2.0E-03	6.3E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05
10000	1.0E-03	3.2E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05
18000	5.0E-04	1.6E-08	60	0.1	18	180	3.75	6.3E-04	2.9E-05
30000	2.0E-04	6.3E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05
50000	1.0E-04	3.2E-09	60	0.1	18	180	3.75	6.3E-04	2.9E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992									
Ingestion									
7500	7.5E-06	3.2E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
10000	3.8E-06	1.6E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
18000	1.5E-06	6.3E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
30000	7.5E-07	3.2E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
50000	3.8E-07	1.6E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
50000+	1.5E-07	6.3E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
50000++	7.5E-08	3.2E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Dermal Absorption									
7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
10000	5.0E-03	1.6E-02	2	216	18	180	0.13	1.4E+00	1.4E+00
18000	2.0E-03	6.3E-03	2	216	18	180	0.13	1.4E+00	1.4E+00
30000	1.0E-03	3.2E-03	2	216	18	180	0.13	1.4E+00	1.4E+00
50000	5.0E-04	1.6E-03	2	216	18	180	0.13	1.4E+00	1.4E+00
50000+	2.0E-04	6.3E-04	2	216	18	180	0.13	1.4E+00	1.4E+00
50000++	1.0E-04	3.2E-04	2	216	18	180	0.13	1.4E+00	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		quail chicks		Chronic Toxicity Value (g/m ³)		Chronic TRV (g/m ³)
	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		
Inhalation									
3000	1.0E-02		2.3E-07		60		0.1		180
4000	5.0E-03		1.1E-07		60		0.1		180
7000	2.0E-03		4.6E-08		60		0.1		180
10000	1.0E-03		2.3E-08		60		0.1		180
16000	5.0E-04		1.1E-08		60		0.1		180
30000	2.0E-04		4.6E-09		60		0.1		180
50000	1.0E-04		2.3E-09		60		0.1		180
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)
	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		
Ingestion									
7500	7.5E-06		2.3E-07		17.6		22		1800
10000	3.8E-06		1.1E-07		17.6		22		1800
18000	1.5E-06		4.6E-08		17.6		22		1800
30000	7.5E-07		2.3E-08		17.6		22		1800
50000	3.8E-07		1.1E-08		17.6		22		1800
50000+	1.5E-07		4.6E-09		17.6		22		1800
50000++	7.5E-08		2.3E-09		17.6		22		1800
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Barmachant 1953									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)
	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		
Dermal Absorption									
7500	1.0E-02	3.2E-02	7.1E-07		2		216		180
10000	5.0E-03	3.2E-02	3.6E-07		2		216		180
18000	2.0E-03	3.2E-02	1.4E-07		2		216		180
30000	1.0E-03	3.2E-02	7.1E-08		2		216		180
50000	5.0E-04	3.2E-02	3.6E-08		2		216		180
50000+	2.0E-04	3.2E-02	1.4E-08		2		216		180
50000++	1.0E-04	3.2E-02	7.1E-09		2		216		180
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		quail chicks		Chronic Toxicity Value (g/m ³)		Chronic Effect
	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		
Inhalation									
3000	1.0E-02		1.5E-07		60		0.1		No
4000	5.0E-03		7.4E-08		60		0.1		No
7000	2.0E-03		2.8E-08		60		0.1		No
10000	1.0E-03		1.5E-08		60		0.1		No
16000	5.0E-04		7.4E-09		60		0.1		No
30000	2.0E-04		2.8E-09		60		0.1		No
50000	1.0E-04		1.5E-09		60		0.1		No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic Effect
	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		
Ingestion									
7500	7.5E-08		1.5E-07		17.6		22		No
10000	3.8E-08		7.4E-08		17.6		22		No
16000	1.5E-08		2.8E-08		17.6		22		No
30000	7.5E-07		1.5E-08		17.6		22		No
50000	3.8E-07		7.4E-09		17.6		22		No
50000+	1.5E-07		2.8E-09		17.6		22		No
50000++	7.5E-08		1.5E-09		17.6		22		No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic Effect
	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		
Dermal Absorption									
7500	1.0E-02	3.2E-02	4.6E-07		2		216		No
10000	5.0E-03	3.2E-02	2.3E-07		2		216		No
16000	2.0E-03	3.2E-02	9.2E-08		2		216		No
30000	1.0E-03	3.2E-02	4.6E-08		2		216		No
50000	5.0E-04	3.2E-02	2.3E-08		2		216		No
50000+	2.0E-04	3.2E-02	9.2E-09		2		216		No
50000++	1.0E-04	3.2E-02	4.6E-09		2		216		No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Bailey McCann Hollow or Babb Airfield															
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	quail chicks		**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
				*Acute Toxicity Value (g/m ³)											
Inhalation															
	3000	1.0E-02	3.8E-07	60	0.1		16	160	3.75	6.3E-04	2.9E-05	2.7E-03	1.3E-02	No	No
	4000	5.0E-03	1.9E-07	60	0.1		16	160	3.75	6.3E-04	2.9E-05	1.3E-03	6.5E-03	No	No
	7000	2.0E-03	7.6E-08	60	0.1		16	160	3.75	6.3E-04	2.9E-05	5.3E-04	2.8E-03	No	No
	10000	1.0E-03	3.8E-08	60	0.1		16	160	3.75	6.3E-04	2.9E-05	2.7E-04	1.9E-03	No	No
	18000	5.0E-04	1.9E-08	60	0.1		16	160	3.75	6.3E-04	2.9E-05	1.3E-04	6.5E-04	No	No
	30000	2.0E-04	7.6E-09	60	0.1		16	160	3.75	6.3E-04	2.9E-05	5.3E-05	2.6E-04	No	No
	50000	1.0E-04	3.8E-09	60	0.1		16	160	3.75	6.3E-04	2.9E-05	2.7E-05	1.3E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
				*Acute Toxicity Value (g/kg)											
Ingestion															
	7500	7.5E-06	3.8E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-06	2.8E-05	No	No	No	No
	10000	3.8E-06	1.9E-07	17.6	22	16	1600	1.10	1.4E-02	3.4E-06	1.4E-05	No	No	No	No
	18000	1.5E-06	7.6E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-06	5.5E-06	No	No	No	No
	30000	7.5E-07	3.8E-08	17.6	22	16	1600	1.10	1.4E-02	6.8E-07	2.8E-06	No	No	No	No
	50000	3.8E-07	1.9E-08	17.6	22	16	1600	1.10	1.4E-02	3.4E-07	1.4E-06	No	No	No	No
	50000+	1.5E-07	7.6E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-07	5.5E-07	No	No	No	No
	50000++	7.5E-08	3.8E-09	17.6	22	16	1600	1.10	1.4E-02	6.8E-08	2.8E-07	No	No	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Dermal Absorption															
	7500	1.0E-02	3.2E-02	1.2E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	8.8E-07	No	No	No
	10000	5.0E-03	3.2E-02	5.9E-07	2	216	16	160	0.13	1.4E+00	4.0E-02	4.4E-07	No	No	No
	18000	2.0E-03	3.2E-02	2.4E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	1.8E-07	No	No	No
	30000	1.0E-03	3.2E-02	1.2E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	8.8E-08	No	No	No
	50000	5.0E-04	3.2E-02	5.9E-08	2	216	16	160	0.13	1.4E+00	4.0E-03	4.4E-08	No	No	No
	50000+	2.0E-04	3.2E-02	2.4E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	1.8E-08	No	No	No
	50000++	1.0E-04	3.2E-02	1.2E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	8.8E-09	No	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Bailey McCann Hollow or Babb Airfield													
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic Effect
	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		
Inhalation													
3000	1.0E-02		2.7E-07		80	0.1			16		16		No
4000	5.0E-03		1.4E-07		80	0.1			16		16		No
7000	2.0E-03		5.5E-08		80	0.1			16		16		No
10000	1.0E-03		2.7E-08		80	0.1			16		16		No
16000	5.0E-04		1.4E-08		80	0.1			16		16		No
30000	2.0E-04		5.5E-09		80	0.1			16		16		No
50000	1.0E-04		2.7E-09		80	0.1			16		16		No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Ingestion													
7500	7.5E-08		2.7E-07		17.6	22			16		16		No
10000	3.8E-08		1.4E-07		17.6	22			16		16		No
18000	1.5E-08		5.5E-08		17.6	22			16		16		No
30000	7.5E-07		2.7E-08		17.6	22			16		16		No
50000	3.8E-07		1.4E-08		17.6	22			16		16		No
50000+	1.5E-07		5.5E-09		17.6	22			16		16		No
50000++	7.5E-08		2.7E-09		17.6	22			16		16		No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Dermal Absorption													
7500	1.0E-02	3.2E-02	8.9E-07		2	216			16		16		No
10000	5.0E-03	3.2E-02	4.3E-07		2	216			16		16		No
18000	2.0E-03	3.2E-02	1.7E-07		2	216			16		16		No
30000	1.0E-03	3.2E-02	8.9E-08		2	216			16		16		No
50000	5.0E-04	3.2E-02	4.3E-08		2	216			16		16		No
50000+	2.0E-04	3.2E-02	1.7E-08		2	216			16		16		No
50000++	1.0E-04	3.2E-02	8.9E-09		2	216			16		16		No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	quail chicks		Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
			*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/kg)					
Inhalation									
3000	1.0E-02	1.8E-07	60	0.1	6.3E-04	16	160	3.75	6.3E-04
4000	5.0E-03	8.8E-08	60	0.1	6.3E-04	16	160	3.75	6.3E-04
7000	2.0E-03	3.5E-08	60	0.1	6.3E-04	16	160	3.75	6.3E-04
10000	1.0E-03	1.8E-08	60	0.1	6.3E-04	16	160	3.75	6.3E-04
16000	5.0E-04	8.8E-09	60	0.1	6.3E-04	16	160	3.75	6.3E-04
30000	2.0E-04	3.5E-09	60	0.1	6.3E-04	16	160	3.75	6.3E-04
50000	1.0E-04	1.8E-09	60	0.1	6.3E-04	16	160	3.75	6.3E-04
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Chronic TRV (g/kg)		Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Effect
					Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment			
Ingestion									
7500	7.5E-06	1.8E-07	17.6	22	16	1800	1.10	1.4E-02	1.3E-05
10000	3.8E-06	8.8E-08	17.6	22	16	1800	1.10	1.4E-02	6.4E-06
18000	1.5E-06	3.5E-08	17.6	22	16	1800	1.10	1.4E-02	2.6E-06
30000	7.5E-07	1.8E-08	17.6	22	16	1800	1.10	1.4E-02	1.3E-06
50000	3.8E-07	8.8E-09	17.6	22	16	1800	1.10	1.4E-02	6.4E-07
50000+	1.5E-07	3.5E-09	17.6	22	16	1800	1.10	1.4E-02	2.6E-07
50000++	7.5E-08	1.8E-09	17.6	22	16	1800	1.10	1.4E-02	1.3E-07
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Baramchari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Chronic TRV (g/kg)		Acute TRV (g/kg)	Chronic Effect
						Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment		
Dermal Absorption									
7500	1.0E-02	3.2E-02	5.5E-07	2	218	16	160	0.13	1.4E+00
10000	5.0E-03	3.2E-02	2.8E-07	2	218	16	160	0.13	4.0E-02
18000	2.0E-03	3.2E-02	1.1E-07	2	218	16	160	0.13	1.9E-02
30000	1.0E-03	3.2E-02	5.5E-08	2	218	16	160	0.13	8.0E-03
50000	5.0E-04	3.2E-02	2.8E-08	2	218	16	160	0.13	4.0E-03
50000+	2.0E-04	3.2E-02	1.1E-08	2	218	16	160	0.13	1.9E-03
50000++	1.0E-04	3.2E-02	5.5E-09	2	218	16	160	0.13	8.0E-04
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Northern Bobwhite Juvenile - Intake

Northern bobwhite intake, RCP

[illegible]

Pasquill Category E

[illegible]

[illegible]

[illegible]

[illegible]

Northern bobwhite intake, RCP

[illegible]

Pasquill Category E

[illegible]

Northern bobwhite intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	4.9E-07	
4000	0.005	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	2.4E-07	
7000	0.002	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	9.7E-08	
10000	0.001	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	4.9E-08	
18000	0.0005	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	2.4E-08	
30000	0.0002	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	9.7E-09	
50000	0.0001	9.5E-02	4.0E-03	9.9E-03	8.2	0.298	3285	4.9E-09	
quail juvenile									
Fog Oil									
Distance (m)	Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Ingestion									
7500	0.01	6.0E-08	1.6E-08	7.5E-08	1.3E+01	8.2	0.298	0.15	4.8E-07
10000	0.005	3.0E-08	7.9E-07	3.8E-08	1.3E+01	8.2	0.298	0.15	2.4E-07
18000	0.002	1.2E-08	3.2E-07	1.5E-08	1.3E+01	8.2	0.298	0.15	9.6E-08
30000	0.001	6.0E-07	1.6E-07	7.5E-07	1.3E+01	8.2	0.298	0.15	4.8E-08
50000	0.0005	3.0E-07	7.9E-08	3.8E-07	1.3E+01	8.2	0.298	0.15	2.4E-08
50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	1.3E+01	8.2	0.298	0.15	9.6E-09
50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	1.3E+01	8.2	0.298	0.15	4.8E-09
Dermal Absorption									
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
7500	0.01		0.028	1	8.2	0.298	0.15	3285	1.4E-06
10000	0.005		0.028	1	8.2	0.298	0.15	3285	6.9E-07
18000	0.002		0.028	1	8.2	0.298	0.15	3285	2.7E-07
30000	0.001		0.028	1	8.2	0.298	0.15	3285	1.4E-07
50000	0.0005		0.028	1	8.2	0.298	0.15	3285	6.9E-08
50000+	0.0002		0.028	1	8.2	0.298	0.15	3285	2.7E-08
50000++	0.0001		0.028	1	8.2	0.298	0.15	3285	1.4E-08

Pasquill Category E

Northern bobwhite intake, RCP

[illegible]

[illegible]

Northern bobwhite intake, EPTM

[illegible]

Pasquill Category E

Northern bobwhite intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babbs Airfield									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	1.8E-08
4000	0.005	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	7.9E-07
7000	0.002	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	3.1E-07
10000	0.001	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	1.8E-07
16000	0.0005	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	7.9E-08
30000	0.0002	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	3.1E-08
50000	0.0001	9.5E-02	4.0E-03	9.9E-03	28.4	0.268	0.15	3285	1.8E-08
Fog Oil									
Distance (m)	Fog Oil Deposition (g/m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
Ingestion									
7500	0.01	1.6E-08	7.5E-08	1.3E+01	28.4	0.268	0.15	3285	1.5E-08
10000	0.005	7.9E-07	3.9E-08	1.3E+01	28.4	0.268	0.15	3285	7.7E-07
18000	0.002	3.2E-07	1.5E-08	1.3E+01	28.4	0.268	0.15	3285	3.1E-07
30000	0.001	1.6E-07	7.5E-07	1.3E+01	28.4	0.268	0.15	3285	1.5E-07
50000	0.0005	7.9E-08	3.9E-07	1.3E+01	28.4	0.268	0.15	3285	7.7E-08
50000+	0.0002	3.2E-08	1.5E-07	1.3E+01	28.4	0.268	0.15	3285	3.1E-08
50000++	0.0001	1.6E-08	7.5E-08	1.3E+01	28.4	0.268	0.15	3285	1.5E-08
Dermal Absorption									
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
7500	0.01	0.028		1	28.4	0.268	0.15	3285	4.4E-08
10000	0.005	0.028		1	28.4	0.268	0.15	3285	2.2E-08
18000	0.002	0.028		1	28.4	0.268	0.15	3285	8.9E-07
30000	0.001	0.028		1	28.4	0.268	0.15	3285	4.4E-07
50000	0.0005	0.028		1	28.4	0.268	0.15	3285	2.2E-07
50000+	0.0002	0.028		1	28.4	0.268	0.15	3285	8.9E-08
50000++	0.0001	0.028		1	28.4	0.268	0.15	3285	4.4E-08

[illegible]

Mobile Smoke - Bailey McCann Hollow or Babb Airfield									
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR					
Inhalation									
3000	0.01	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	7.3E-07
4000	0.005	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	3.6E-07
7000	0.001	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	1.5E-07
10000	0.001	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	7.3E-08
16000	0.0005	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	3.6E-08
30000	0.0002	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	1.5E-08
50000	0.0001	9.5E-02	4.0E-03	9.9E-03	12.3	0.298	0.15	3285	7.3E-09
quail juvenile									
Fog Oil									
Distance (m)	Deposition (g/m ²)	Prey SA (m ²)	Prey Weight (g)	CF (g/g)	Intake Rate (g/day) Daily IR	EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)
Ingestion									
7500	0.01	6.0E-08	1.6E-08	7.5E-08	1.3E+01	12.3	0.298	0.15	7.2E-07
10000	0.005	3.0E-08	7.9E-07	3.8E-08	1.3E+01	12.3	0.298	0.15	3.6E-07
18000	0.002	1.2E-08	3.2E-07	1.5E-08	1.3E+01	12.3	0.298	0.15	1.4E-07
30000	0.001	6.0E-07	1.6E-07	7.5E-07	1.3E+01	12.3	0.298	0.15	7.2E-08
50000	0.0005	3.0E-07	7.9E-08	3.8E-07	1.3E+01	12.3	0.298	0.15	3.6E-08
50000+	0.0002	1.2E-07	3.2E-08	1.5E-07	1.3E+01	12.3	0.298	0.15	1.4E-08
50000++	0.0001	6.0E-08	1.6E-08	7.5E-08	1.3E+01	12.3	0.298	0.15	7.2E-09
Dermal Absorption									
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
quail juvenile									
7500	0.01	0.028		1	12.3	0.298	0.15	3285	2.1E-06
10000	0.005	0.028		1	12.3	0.298	0.15	3285	1.0E-06
18000	0.002	0.028		1	12.3	0.298	0.15	3285	4.1E-07
30000	0.001	0.028		1	12.3	0.298	0.15	3285	2.1E-07
50000	0.0005	0.028		1	12.3	0.298	0.15	3285	1.0E-07
50000+	0.0002	0.028		1	12.3	0.298	0.15	3285	4.1E-08
50000++	0.0001	0.028		1	12.3	0.298	0.15	3285	2.1E-08

Pasquill Category E

Northern Bobwhite Juvenile - Risk

Static Smoke	Distance (m)	quail juvenile	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000	1.0E-02	5.9E-07	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	2.7E-03	1.0E-02	No	No
	5000	5.0E-03	3.0E-07	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	1.3E-03	5.0E-03	No	No
	8000	2.0E-03	1.2E-07	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	5.3E-04	2.0E-03	No	No
	14000	1.0E-03	5.9E-08	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	2.7E-04	1.0E-03	No	No
	24000	5.0E-04	3.0E-08	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	1.3E-04	5.0E-04	No	No
	50000	2.0E-04	1.2E-08	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	5.3E-05	2.0E-04	No	No
	50000+	1.0E-04	5.9E-09	60	0.1	16	16	160	3.75	6.3E-04	5.9E-05	2.7E-05	1.0E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500	7.5E-08	9.8E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	6.8E-06	7.1E-05	No	No
	10000	3.8E-06	4.9E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	3.6E-05	No	No
	18000	1.5E-06	2.0E-07	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.4E-05	No	No
	30000	7.5E-07	9.8E-08	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	6.8E-07	7.1E-06	No	No
	50000	3.8E-07	4.9E-08	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	3.6E-06	No	No
	50000+	1.5E-07	2.0E-08	17.6	22	16	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.4E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500	1.0E-02	3.2E-02	2	218	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	2.1E-08	No	No
	10000	5.0E-03	1.4E-02	2	218	16	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-08	No	No
	18000	2.0E-03	5.6E-07	2	218	16	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	4.2E-07	No	No
	30000	1.0E-03	2.8E-07	2	218	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	2.1E-07	No	No
	50000	5.0E-04	1.4E-07	2	218	16	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-07	No	No
	50000+	2.0E-04	5.6E-08	2	218	16	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	4.2E-08	No	No
	50000++	1.0E-04	2.8E-08	2	218	16	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	2.1E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	2.5E-07	60	0.1	16	16	3.75	6.3E-04	5.9E-05	2.7E-03	4.3E-03	No	No
	5000	5.0E-03	1.3E-07	60	0.1	16	16	3.75	6.3E-04	5.9E-05	1.3E-03	2.1E-03	No	No
	9000	2.0E-03	5.1E-08	60	0.1	16	16	3.75	6.3E-04	5.9E-05	5.3E-04	6.5E-04	No	No
	14000	1.0E-03	2.5E-08	60	0.1	16	16	3.75	6.3E-04	5.9E-05	2.7E-04	4.3E-04	No	No
	24000	5.0E-04	1.3E-08	60	0.1	16	16	3.75	6.3E-04	5.9E-05	1.3E-04	2.1E-04	No	No
	50000	2.0E-04	5.1E-09	60	0.1	16	16	3.75	6.3E-04	5.9E-05	5.3E-05	6.5E-05	No	No
	50000+	1.0E-04	2.5E-09	60	0.1	16	16	3.75	6.3E-04	5.9E-05	2.7E-05	4.3E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Ingestion														
	7500	7.5E-06	4.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.8E-08	3.0E-05	No	No
	10000	3.8E-06	2.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-08	1.5E-05	No	No
	18000	1.5E-06	8.3E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-08	8.0E-06	No	No
	30000	7.5E-07	4.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.8E-07	3.0E-06	No	No
	50000	3.8E-07	2.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.5E-06	No	No
	50000+	1.5E-07	8.3E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	6.0E-07	No	No
	50000++	7.5E-08	4.2E-09	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.8E-08	3.0E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	8.8E-07	No	No
	10000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	4.4E-07	No	No
	18000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	1.8E-07	No	No
	30000	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	8.8E-08	No	No
	50000	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	4.4E-08	No	No
	50000+	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	1.8E-08	No	No
	50000++	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	8.8E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	quail juvenile	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	4000	1.0E-02	3.3E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-03	5.5E-04	No	No
	5000	5.0E-03	1.9E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-03	2.8E-04	No	No
	8000	2.0E-03	6.5E-09	60	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-04	1.1E-04	No	No
	14000	1.0E-03	3.3E-09	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-04	5.5E-05	No	No
	24000	5.0E-04	1.9E-09	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-04	2.8E-05	No	No
	50000	2.0E-04	6.5E-10	60	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-05	1.1E-05	No	No
	50000+	1.0E-04	3.3E-10	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-05	5.5E-06	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Ingestion														
	7500	7.5E-08	5.4E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	3.9E-08	No	No
	10000	3.8E-08	2.7E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-08	2.0E-08	No	No
	18000	1.5E-08	1.1E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-08	7.8E-07	No	No
	30000	7.5E-07	5.4E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-07	3.9E-07	No	No
	50000	3.8E-07	2.7E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	2.0E-07	No	No
	50000+	1.5E-07	1.1E-09	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	7.8E-08	No	No
	50000++	7.5E-08	5.4E-10	17.6	22	18	1800	1.10	1.4E-02	1.4E-02	6.8E-08	3.9E-08	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
	7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-07	No	No
	10000	5.0E-03	7.7E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	5.7E-08	No	No
	18000	2.0E-03	3.1E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	2.3E-08	No	No
	30000	1.0E-03	1.5E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-08	No	No
	50000	5.0E-04	7.7E-09	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	5.7E-09	No	No
	50000+	2.0E-04	3.1E-09	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	2.3E-09	No	No
	50000++	1.0E-04	1.5E-09	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		quail juvenile		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)														
Inhalation															
3000	1.0E-02			2.1E-06	80	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-03	3.5E-02	No	No
4000	5.0E-03			1.0E-06	80	0.1	16	160	3.75	6.3E-04	5.9E-05	1.3E-03	1.8E-02	No	No
7000	2.0E-03			4.2E-07	80	0.1	16	160	3.75	6.3E-04	5.9E-05	5.3E-04	7.0E-03	No	No
10000	1.0E-03			2.1E-07	80	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-04	3.5E-03	No	No
18000	5.0E-04			1.0E-07	80	0.1	16	160	3.75	6.3E-04	5.9E-05	1.3E-04	1.8E-03	No	No
30000	2.0E-04			4.2E-08	80	0.1	16	160	3.75	6.3E-04	5.9E-05	5.3E-05	7.0E-04	No	No
50000	1.0E-04			2.1E-08	80	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-05	3.5E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982															
Ingestion															
7500	7.5E-06			2.1E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	8.9E-08	1.5E-04	No	No
10000	3.8E-06			1.0E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-06	7.5E-05	No	No
18000	1.5E-06			4.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-06	3.0E-05	No	No
30000	7.5E-07			2.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-07	1.5E-05	No	No
50000	3.8E-07			1.0E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.4E-07	7.5E-06	No	No
50000++	1.5E-07			4.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.4E-07	3.0E-06	No	No
50000++	7.5E-08			2.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	6.9E-08	1.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
7500	1.0E-02	3.2E-02		5.9E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	4.4E-06	No	No
10000	5.0E-03	3.2E-02		3.0E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.2E-06	No	No
18000	2.0E-03	3.2E-02		1.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.9E-02	8.8E-07	No	No
30000	1.0E-03	3.2E-02		5.9E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.4E-07	No	No
50000	5.0E-04	3.2E-02		3.0E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.2E-07	No	No
50000++	2.0E-04	3.2E-02		1.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.9E-03	8.8E-08	No	No
50000++	1.0E-04	3.2E-02		5.9E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.4E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

	I Study. Palmer 1980	
	Critical Study. Lewis 1989	

Mobile Smoke - Musgrave Hollow		quail juvenile		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)														
Inhalation															
3000	1.0E-02			9.7E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.6E-02	No	No
4000	5.0E-03			4.9E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-03	8.2E-03	No	No
7000	2.0E-03			1.9E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-04	3.3E-03	No	No
10000	1.0E-03			9.7E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.6E-03	No	No
16000	5.0E-04			4.9E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-04	8.2E-04	No	No
30000	2.0E-04			1.9E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-05	3.3E-04	No	No
50000	1.0E-04			9.7E-09	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
7500	7.5E-08			9.8E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-08	7.0E-05	No	No
10000	3.8E-08			4.8E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-08	3.5E-05	No	No
18000	1.5E-08			1.9E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-08	1.4E-05	No	No
30000	7.5E-07			9.8E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-07	7.0E-06	No	No
50000	3.8E-07			4.8E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	3.5E-06	No	No
50000+	1.5E-07			1.9E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	1.4E-06	No	No
50000++	7.5E-08			9.8E-09	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-08	7.0E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
7500	1.0E-02	3.2E-02		2.7E-08	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.0E-08	No	No
10000	5.0E-03	3.2E-02		1.4E-08	2	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.0E-08	No	No
18000	2.0E-03	3.2E-02		5.5E-07	2	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	4.1E-07	No	No
30000	1.0E-03	3.2E-02		2.7E-07	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.0E-07	No	No
50000	5.0E-04	3.2E-02		1.4E-07	2	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.0E-07	No	No
50000+	2.0E-04	3.2E-02		5.5E-08	2	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	4.1E-08	No	No
50000++	1.0E-04	3.2E-02		2.7E-08	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Northern bobwhite risk, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow			quail juvenile										
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.0E-08	60	0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.8E-02	No	No
4000	5.0E-03	5.2E-07	60	0.1	16	180	3.75	6.3E-04	5.9E-05	1.3E-03	8.9E-03	No	No
7000	2.0E-03	2.1E-07	60	0.1	16	180	3.75	6.3E-04	5.9E-05	5.3E-04	3.5E-03	No	No
10000	1.0E-03	1.0E-07	60	0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.8E-03	No	No
16000	5.0E-04	5.2E-08	60	0.1	16	180	3.75	6.3E-04	5.9E-05	1.3E-04	8.9E-04	No	No
30000	2.0E-04	2.1E-08	60	0.1	16	180	3.75	6.3E-04	5.9E-05	5.3E-05	3.5E-04	No	No
50000	1.0E-04	1.0E-08	60	0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.8E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-06	5.2E-08	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	6.8E-06	3.8E-04	No	No
10000	3.8E-06	2.6E-08	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	3.4E-06	1.9E-04	No	No
18000	1.5E-06	1.0E-08	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	1.4E-06	7.5E-05	No	No
30000	7.5E-07	5.2E-07	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	6.8E-07	3.8E-05	No	No
50000	3.8E-07	2.6E-07	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	3.4E-07	1.9E-05	No	No
50000+	1.5E-07	1.0E-07	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	1.4E-07	7.5E-06	No	No
50000++	7.5E-08	5.2E-08	17.6	22	18	1600	1.10	1.4E-02	1.4E-02	6.8E-08	3.8E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	1.1E-05	No	No
10000	5.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	5.5E-06	No	No
18000	2.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	2.2E-06	No	No
30000	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	1.1E-06	No	No
50000	5.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	5.5E-07	No	No
50000+	2.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	2.2E-07	No	No
50000++	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	1.1E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Mobile Smoke - Ballard Hollow or Wolf Hollow													quail juvenile												
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect												
Inhalation	3000	1.0E-02	7.5E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.3E-02	No												
	4000	5.0E-03	3.8E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-03	6.3E-03	No												
	7000	2.0E-03	1.5E-07	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-04	2.5E-03	No												
	10000	1.0E-03	7.5E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.3E-03	No												
	16000	5.0E-04	3.8E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-04	6.3E-04	No												
30000	2.0E-04	1.5E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	5.9E-05	2.5E-04	2.5E-04	No												
	50000	1.0E-04	7.5E-08	60	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.3E-04	No												
**Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect												
Ingestion	7500	7.5E-06	7.4E-07	17.6	22	18	1800	1.10	1.4E-02	8.8E-08	5.4E-05	No	No												
	10000	3.8E-06	3.7E-07	17.6	22	18	1800	1.10	1.4E-02	3.4E-08	2.7E-05	No	No												
	18000	1.5E-06	1.5E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-08	1.1E-05	No	No												
	30000	7.5E-07	7.4E-08	17.6	22	18	1800	1.10	1.4E-02	6.8E-07	5.4E-06	No	No												
	50000	3.8E-07	3.7E-08	17.6	22	18	1800	1.10	1.4E-02	3.4E-07	2.7E-06	No	No												
50000+	1.5E-07	1.5E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-07	1.1E-06	No	No	No												
	50000++	7.5E-08	7.4E-08	17.6	22	18	1800	1.10	1.4E-02	8.8E-08	5.4E-07	No	No												
**Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																									
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect												
Dermal Absorption	7500	1.0E-02	3.2E-02	2.1E-06	2	218	180	0.13	1.4E+00	8.0E-02	1.6E-06	No	No												
	10000	5.0E-03	3.2E-02	1.1E-06	2	218	180	0.13	1.4E+00	4.0E-02	7.9E-07	No	No												
	18000	2.0E-03	3.2E-02	4.3E-07	2	218	180	0.13	1.4E+00	1.6E-02	3.2E-07	No	No												
	30000	1.0E-03	3.2E-02	2.1E-07	2	218	180	0.13	1.4E+00	8.0E-03	1.6E-07	No	No												
	50000	5.0E-04	3.2E-02	1.1E-07	2	218	180	0.13	1.4E+00	4.0E-03	7.9E-08	No	No												
50000+	2.0E-04	3.2E-02	4.3E-08	2	218	180	180	0.13	1.4E+00	1.6E-03	3.2E-08	No	No												
	50000++	1.0E-04	3.2E-02	2.1E-08	2	218	180	0.13	1.4E+00	8.0E-04	1.6E-08	No	No												
**Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																									

Mobile Smoke - Ballard Hollow or Wolf Hollow		quail juvenile		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)												
Inhalation														
3000	1.0E-02	4.9E-07	80	0.1	16			3.75	6.3E-04	5.9E-05	2.7E-03	8.2E-03	No	No
4000	5.0E-03	2.4E-07	80	0.1	16			3.75	6.3E-04	5.9E-05	1.3E-03	4.1E-03	No	No
7000	2.0E-03	9.7E-08	80	0.1	16			3.75	6.3E-04	5.9E-05	5.3E-04	1.6E-03	No	No
10000	1.0E-03	4.9E-08	80	0.1	16			3.75	6.3E-04	5.9E-05	2.7E-04	8.2E-04	No	No
16000	5.0E-04	2.4E-08	80	0.1	16			3.75	6.3E-04	5.9E-05	1.3E-04	4.1E-04	No	No
30000	2.0E-04	9.7E-09	80	0.1	16			3.75	6.3E-04	5.9E-05	5.3E-05	1.6E-04	No	No
50000	1.0E-04	4.9E-09	80	0.1	16			3.75	6.3E-04	5.9E-05	2.7E-05	8.2E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Ingestion														
7500	7.5E-08	4.8E-07	17.6	22	16			1.10	1.4E-02	1.4E-02	6.8E-08	3.5E-05	No	No
10000	3.8E-08	2.4E-07	17.6	22	16			1.10	1.4E-02	1.4E-02	3.4E-08	1.7E-05	No	No
18000	1.5E-08	9.8E-08	17.6	22	16			1.10	1.4E-02	1.4E-02	1.4E-08	7.0E-08	No	No
30000	7.5E-07	4.8E-08	17.6	22	16			1.10	1.4E-02	1.4E-02	6.8E-07	3.5E-08	No	No
50000	3.8E-07	2.4E-08	17.6	22	16			1.10	1.4E-02	1.4E-02	3.4E-07	1.7E-08	No	No
50000++	1.5E-07	9.8E-09	17.6	22	16			1.10	1.4E-02	1.4E-02	1.4E-07	7.0E-07	No	No
50000++	7.5E-08	4.8E-09	17.6	22	16			1.10	1.4E-02	1.4E-02	6.8E-08	3.5E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Dermal Absorption														
7500	1.0E-02	3.2E-02	2	216	16			0.13	1.4E+00	1.4E+00	8.0E-02	1.0E-08	No	No
10000	5.0E-03	3.2E-02	2	216	16			0.13	1.4E+00	1.4E+00	4.0E-02	5.1E-07	No	No
18000	2.0E-03	2.7E-07	2	216	16			0.13	1.4E+00	1.4E+00	1.6E-02	2.0E-07	No	No
30000	1.0E-03	3.2E-02	2	216	16			0.13	1.4E+00	1.4E+00	8.0E-03	1.0E-07	No	No
50000	5.0E-04	3.2E-02	2	216	16			0.13	1.4E+00	1.4E+00	4.0E-03	5.1E-08	No	No
50000+	2.0E-04	2.7E-08	2	216	16			0.13	1.4E+00	1.4E+00	1.6E-03	2.0E-08	No	No
50000++	1.0E-04	1.4E-08	2	216	16			0.13	1.4E+00	1.4E+00	8.0E-04	1.0E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Cannon Range (Mush Paddle Hollow)																
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	quail juvenile		*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
				*Acute Toxicity Value (g/m ³)												
Inhalation																
	3000	1.0E-02	1.3E-06	60	0.1	18			3.75	6.3E-04	5.9E-06	2.7E-03	2.2E-02	No	No	
	4000	5.0E-03	6.5E-07	60	0.1	18			3.75	6.3E-04	5.9E-06	1.3E-03	1.1E-02	No	No	
	7000	2.0E-03	2.6E-07	60	0.1	18			3.75	6.3E-04	5.9E-06	5.3E-04	4.4E-03	No	No	
	10000	1.0E-03	1.3E-07	60	0.1	18			3.75	6.3E-04	5.9E-06	2.7E-04	2.2E-03	No	No	
	16000	5.0E-04	6.5E-08	60	0.1	18			3.75	6.3E-04	5.9E-06	1.3E-04	1.1E-03	No	No	
	30000	2.0E-04	2.6E-08	60	0.1	18			3.75	6.3E-04	5.9E-06	5.3E-06	4.4E-04	No	No	
	50000	1.0E-04	1.3E-08	60	0.1	18			3.75	6.3E-04	5.9E-06	2.7E-06	2.2E-04	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Dner et al. 1992																
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect			
Ingestion																
	7500	7.5E-06	1.3E-06	17.6	18	1800	1.10	1.4E-02	1.4E-02	6.8E-06	9.4E-06	No	No			
	10000	3.8E-06	6.4E-07	17.6	18	1600	1.10	1.4E-02	1.4E-02	3.4E-06	4.7E-06	No	No			
	18000	1.5E-06	2.6E-07	17.6	18	1600	1.10	1.4E-02	1.4E-02	1.4E-06	1.9E-06	No	No			
	30000	7.5E-07	1.3E-07	17.6	18	1600	1.10	1.4E-02	1.4E-02	6.8E-07	9.4E-06	No	No			
	50000	3.8E-07	6.4E-08	17.6	18	1600	1.10	1.4E-02	1.4E-02	3.4E-07	4.7E-06	No	No			
	50000+	1.5E-07	2.6E-08	17.6	18	1600	1.10	1.4E-02	1.4E-02	1.4E-07	1.9E-06	No	No			
	50000++	7.5E-08	1.3E-08	17.6	18	1600	1.10	1.4E-02	1.4E-02	6.8E-08	9.4E-07	No	No			
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
Dermal Absorption																
	7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.7E-08	No	No		
	10000	5.0E-03	1.6E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.4E-08	No	No		
	18000	2.0E-03	6.4E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-02	5.5E-07	No	No		
	30000	1.0E-03	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.7E-07	No	No		
	50000	5.0E-04	1.6E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.4E-07	No	No		
	50000+	2.0E-04	6.4E-03	2	216	16	180	0.13	1.4E+00	1.4E+00	1.6E-03	5.5E-08	No	No		
	50000++	1.0E-04	3.2E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.7E-08	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Chronic TRV (g/m ³)
	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	
Inhalation									
3000	1.0E-02		9.4E-07		60	0.1			3.75
4000	5.0E-03		4.7E-07		60	0.1			1.80
7000	2.0E-03		1.9E-07		60	0.1			1.80
10000	1.0E-03		9.4E-08		60	0.1			1.80
18000	5.0E-04		4.7E-08		60	0.1			1.80
30000	2.0E-04		1.9E-08		60	0.1			1.80
50000	1.0E-04		9.4E-09		60	0.1			1.80
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992									
Distance (m)	Daily Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)
	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	
Ingestion									
7500	7.5E-06		9.3E-07		17.6	22			1.10
10000	3.9E-06		4.6E-07		17.6	22			1.10
18000	1.5E-06		1.9E-07		17.6	22			1.10
30000	7.5E-07		9.3E-08		17.6	22			1.10
50000	3.9E-07		4.6E-08		17.6	22			1.10
50000++	1.5E-07		1.9E-08		17.6	22			1.10
50000+++	7.5E-08		9.3E-09		17.6	22			1.10
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Chronic TRV (g/kg)
	Daily Acute Intake Value (g/m ²)	Daily Chronic Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	
Dermal Absorption									
7500	1.0E-02	3.2E-02	2.7E-06		2	216			0.13
10000	5.0E-03	3.2E-02	1.3E-06		2	216			0.13
18000	2.0E-03	3.2E-02	5.3E-07		2	216			0.13
30000	1.0E-03	3.2E-02	2.7E-07		2	216			0.13
50000	5.0E-04	3.2E-02	1.3E-07		2	216			0.13
50000+	2.0E-04	3.2E-02	5.3E-08		2	216			0.13
50000++	1.0E-04	3.2E-02	2.7E-08		2	216			0.13
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)															
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	quail juvenile		**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
				*Acute Toxicity Value (g/m ³)											
Inhalation															
	3000	1.0E-02	6.1E-07	60	0.1		18	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.0E-02	No	No
	4000	5.0E-03	3.0E-07	80	0.1		18	180	3.75	6.3E-04	5.9E-05	1.3E-03	5.1E-03	No	No
	7000	2.0E-03	1.2E-07	80	0.1		18	180	3.75	6.3E-04	5.9E-05	5.3E-04	2.0E-03	No	No
	10000	1.0E-03	6.1E-08	60	0.1		18	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.0E-03	No	No
	18000	5.0E-04	3.0E-08	18000	0.1		18	180	3.75	6.3E-04	5.9E-05	1.3E-04	5.1E-04	No	No
	30000	2.0E-04	1.2E-08	80	0.1		18	180	3.75	6.3E-04	5.9E-05	5.3E-05	2.0E-04	No	No
	50000	1.0E-04	6.1E-09	80	0.1		18	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.0E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
Ingestion															
	7500	7.5E-06	6.0E-07	17.6	22	18	1800	1.10	1.4E-02	6.8E-06	4.4E-05	No	No		
	10000	3.8E-06	3.0E-07	17.6	22	18	1800	1.10	1.4E-02	3.4E-06	2.2E-05	No	No		
	18000	1.5E-06	1.2E-07	17.6	22	18	1800	1.10	1.4E-02	1.4E-06	8.7E-08	No	No		
	30000	7.5E-07	6.0E-08	17.6	22	18	1800	1.10	1.4E-02	6.8E-07	4.4E-06	No	No		
	50000	3.8E-07	3.0E-08	17.6	22	18	1800	1.10	1.4E-02	3.4E-07	2.2E-06	No	No		
	50000+	1.5E-07	1.2E-08	17.6	22	18	1800	1.10	1.4E-02	1.4E-07	8.7E-07	No	No		
	50000++	7.5E-08	6.0E-09	17.6	22	18	1800	1.10	1.4E-02	6.8E-08	4.4E-07	No	No		
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
Dermal Absorption															
	7500	1.0E-02	3.2E-02	2	216	18	180	0.13	1.4E+00	8.0E-02	1.3E-08	No	No		
	10000	5.0E-03	8.6E-07	2	216	18	180	0.13	1.4E+00	4.0E-02	6.4E-07	No	No		
	18000	2.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	1.6E-02	2.5E-07	No	No		
	30000	1.0E-03	3.2E-02	2	216	18	180	0.13	1.4E+00	8.0E-03	1.3E-07	No	No		
	50000	5.0E-04	8.6E-08	2	216	18	180	0.13	1.4E+00	4.0E-03	6.4E-08	No	No		
	50000+	2.0E-04	3.2E-02	2	216	18	180	0.13	1.4E+00	1.6E-03	2.5E-08	No	No		
	50000++	1.0E-04	1.7E-08	2	216	18	180	0.13	1.4E+00	8.0E-04	1.3E-08	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										quail juvenile																	
Distance (m)		Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Inhalation		3000	1.0E-02	1.8E-06	60	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-03	2.8E-02	No	No												
		4000	5.0E-03	7.8E-07	60	0.1	16	160	3.75	6.3E-04	5.9E-05	1.3E-03	1.3E-02	No	No												
		7000	2.0E-03	3.1E-07	60	0.1	16	160	3.75	6.3E-04	5.9E-05	5.3E-04	5.3E-03	No	No												
		10000	1.0E-03	1.6E-07	60	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-04	2.8E-03	No	No												
		18000	5.0E-04	7.8E-08	60	0.1	16	160	3.75	6.3E-04	5.9E-05	1.3E-04	1.3E-03	No	No												
		30000	2.0E-04	3.1E-08	60	0.1	16	160	3.75	6.3E-04	5.9E-05	5.3E-05	5.3E-04	No	No												
		50000	1.0E-04	1.6E-08	60	0.1	16	160	3.75	6.3E-04	5.9E-05	2.7E-05	2.8E-04	No	No												
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																											
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																											
Distance (m)		Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Ingestion		7500	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	8.8E-08	1.1E-04	No	No													
		10000	3.8E-06	7.7E-07	17.6	22	16	1600	1.10	1.4E-02	3.4E-08	5.6E-05	No	No													
		18000	1.5E-06	3.1E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-08	2.3E-05	No	No													
		30000	7.5E-07	1.5E-07	17.6	22	16	1600	1.10	1.4E-02	6.8E-07	1.1E-05	No	No													
		50000	3.8E-07	7.7E-08	17.6	22	16	1600	1.10	1.4E-02	3.4E-07	5.6E-06	No	No													
		50000+	1.5E-07	3.1E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-07	2.3E-06	No	No													
		50000++	7.5E-08	1.5E-08	17.6	22	16	1600	1.10	1.4E-02	6.8E-08	1.1E-06	No	No													
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																											
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																											
Distance (m)		Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Dermal Absorption		7500	1.0E-02	3.2E-02	4.4E-06	2	216	180	0.13	1.4E+00	8.0E-02	3.3E-06	No	No													
		10000	5.0E-03	3.2E-02	2.2E-06	2	216	180	0.13	1.4E+00	4.0E-02	1.6E-06	No	No													
		18000	2.0E-03	3.2E-02	8.9E-07	2	216	180	0.13	1.4E+00	1.6E-02	6.8E-07	No	No													
		30000	1.0E-03	3.2E-02	4.4E-07	2	216	180	0.13	1.4E+00	8.0E-03	3.3E-07	No	No													
		50000	5.0E-04	3.2E-02	2.2E-07	2	216	180	0.13	1.4E+00	4.0E-03	1.6E-07	No	No													
		50000+	2.0E-04	3.2E-02	8.9E-08	2	216	180	0.13	1.4E+00	1.6E-03	6.8E-08	No	No													
		50000++	1.0E-04	3.2E-02	4.4E-08	2	216	180	0.13	1.4E+00	8.0E-04	3.3E-08	No	No													
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																											
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										quail juvenile			
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation													
3000	1.0E-02	1.1E-08	80	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.9E-02	No	No
4000	5.0E-03	5.6E-07	80	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-03	9.5E-03	No	No
7000	2.0E-03	2.3E-07	80	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-04	3.8E-03	No	No
10000	1.0E-03	1.1E-07	80	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.9E-03	No	No
18000	5.0E-04	5.6E-08	80	0.1	18	180	3.75	6.3E-04	5.9E-05	1.3E-04	9.5E-04	No	No
30000	2.0E-04	2.3E-08	80	0.1	18	180	3.75	6.3E-04	5.9E-05	5.3E-05	3.8E-04	No	No
50000	1.0E-04	1.1E-08	80	0.1	18	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.9E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982													
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion													
7500	7.5E-08	1.1E-06	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-08	8.1E-05	No	No
10000	3.8E-08	5.6E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-08	4.1E-05	No	No
18000	1.5E-08	2.2E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-08	1.6E-05	No	No
30000	7.5E-07	1.1E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-07	8.1E-08	No	No
50000	3.8E-07	5.6E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.4E-07	4.1E-08	No	No
50000+	1.5E-07	2.2E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.4E-07	1.6E-08	No	No
50000++	7.5E-08	1.1E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	8.8E-08	8.1E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989													
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption													
7500	1.0E-02	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.4E-08	No	No
10000	5.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.2E-08	No	No
18000	2.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	4.7E-07	No	No
30000	1.0E-03	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.4E-07	No	No
50000	5.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.2E-07	No	No
50000+	2.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	4.7E-08	No	No
50000++	1.0E-04	3.2E-02	2	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.4E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989													

Northern bobwhite risk, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield																	
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		quail juvenile		**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
					*Acute Toxicity Value (g/m ³)												
Inhalation																	
	3000	1.0E-02	7.3E-07		60		0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-03	1.2E-02	No	No	
	4000	5.0E-03	3.6E-07		60		0.1	16	180	3.75	6.3E-04	5.9E-05	1.3E-03	6.1E-03	No	No	
	7000	2.0E-03	1.5E-07		60		0.1	16	180	3.75	6.3E-04	5.9E-05	5.3E-04	2.5E-03	No	No	
	10000	1.0E-03	7.3E-08		60		0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-04	1.2E-03	No	No	
	16000	5.0E-04	3.6E-08		60		0.1	16	180	3.75	6.3E-04	5.9E-05	1.3E-04	6.1E-04	No	No	
	30000	2.0E-04	1.5E-08		60		0.1	16	180	3.75	6.3E-04	5.9E-05	5.3E-05	2.5E-04	No	No	
	50000	1.0E-04	7.3E-09		60		0.1	16	180	3.75	6.3E-04	5.9E-05	2.7E-05	1.2E-04	No	No	
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1967																	
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																	
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect		
					*Acute Toxicity Value (g/kg)												
Ingestion																	
	7500	7.5E-08	7.2E-07		17.6		22	16	1600	1.10	1.4E-02	6.8E-08	5.2E-05	No	No	No	
	10000	3.8E-08	3.6E-07		17.6		22	16	1600	1.10	1.4E-02	3.4E-06	2.6E-05	No	No	No	
	18000	1.5E-08	1.4E-07		17.6		22	16	1600	1.10	1.4E-02	1.4E-06	1.0E-05	No	No	No	
	30000	7.5E-07	7.2E-08		17.6		22	16	1600	1.10	1.4E-02	6.8E-07	5.2E-06	No	No	No	
	50000	3.8E-07	3.6E-08		17.6		22	16	1600	1.10	1.4E-02	3.4E-07	2.6E-06	No	No	No	
	50000+	1.5E-07	1.4E-08		17.6		22	16	1600	1.10	1.4E-02	1.4E-07	1.0E-06	No	No	No	
	50000++	7.5E-08	7.2E-09		17.6		22	16	1600	1.10	1.4E-02	6.8E-08	5.2E-07	No	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																	
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																	
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
					Dermally absorbed dose (g/kg-day)												
Dermal Absorption																	
	7500	1.0E-02	3.2E-02		2		216	16	180	0.13	1.4E+00	8.0E-02	1.5E-06	No	No	No	
	10000	5.0E-03	3.2E-02		2		216	16	180	0.13	1.4E+00	4.0E-02	7.6E-07	No	No	No	
	18000	2.0E-03	3.2E-02		2		216	16	180	0.13	1.4E+00	1.6E-02	3.1E-07	No	No	No	
	30000	1.0E-03	3.2E-02		2		216	16	180	0.13	1.4E+00	8.0E-03	1.5E-07	No	No	No	
	50000	5.0E-04	3.2E-02		2		216	16	180	0.13	1.4E+00	4.0E-03	7.6E-08	No	No	No	
	50000+	2.0E-04	3.2E-02		2		216	16	180	0.13	1.4E+00	1.6E-03	3.1E-08	No	No	No	
	50000++	1.0E-04	3.2E-02		2		216	16	180	0.13	1.4E+00	8.0E-04	1.5E-08	No	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																	
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																	

American Robins

INTAKE PARAMETERS FOR AMERICAN ROBINS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Intake Rate		Amount of air inhaled.
Daily Intake Rate	Daily IR	Amount of air inhaled each day.
Hourly Intake Rate	Hourly IR	Amount of air inhaled each hour.
Event Intake Rate	Event IR	Amount of air inhaled during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor inhaled by receptor.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Deposition		Exposure concentration.
Prey Surface Area	Prey SA	Size of area of the body surface of prey that might be covered by fog oil particles.
Prey Weight		Mass of prey.
Concentration of Food Contaminant	CF	Quantity of contaminant deposited on food item.
Intake Rate		Amount of food ingested during each chemical release.
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Daily Chronic Intake Value		Amount of chemical stressor ingested by receptor.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Fog Oil Concentration		Exposure concentration.
Skin Surface Area		Surface area of receptor.
Absorption Factor	ABS	Degree of dermal absorption of stressor by receptor. Unitless - assumed to equal 1 (100% absorption).
Exposure Frequency	EF	Number of chemical exposures per year.
Exposure Duration	ED	Estimate of time receptor will potentially be exposed to chemical.
Body Weight	BW	Mass of adult receptor.
Averaging Time	AT	Lifespan of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.

RISK PARAMETERS FOR AMERICAN ROBINS

Inhalation

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Chronic Dose Adjusted Toxicity Reference Value	Chronic Dose Adjusted TRV	A toxicological value adjusted by multiplicative uncertainty factors for chronic (averaged over the receptor's lifespan) exposure.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Ingestion

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Daily Chronic Intake Value		Amount of stressor taken in by the receptor, averaged over its lifetime, per day.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

Dermal Absorption

Parameter	Abbreviation	Definition
Distance		Number of meters from chemical source to exposure point.
Daily Acute Intake Value		Amount of stressor taken in by the receptor per day.
Skin Surface Area		Surface area of receptor.
Dermally Absorbed Dose		Amount of chemical stressor dermally absorbed by receptor.
Acute Toxicity Value		Single chemical exposure.
Chronic Toxicity Value		Chemical exposure averaged over the receptor's lifetime.
Acute Toxicity Reference Value Uncertainty Adjustment	Acute TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors).
Chronic Toxicity Reference Value Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Multiplicative factors applied to toxicological values to account for uncertainty in morphological and physiological differences between test species and species of concern (receptors), averaged over the receptor's lifetime.
Acute Toxicity Reference Value	Acute TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints. A TRV was developed for each receptor.
Chronic Toxicity Reference Value	Chronic TRV	Adjusted (with uncertainty factors) toxicological reference values used as measurement endpoints, averaged over the receptors lifetime. A TRV was developed for each receptor.
Acute Hazard Quotient		Equal to expected exposure concentration _{acute} divided by TRV _{acute} .
Chronic Hazard Quotient		Equal to daily intake _{chronic} divided by TRV _{chronic} .
Acute Effect		Acute Effect = yes, if Acute Hazard Quotient > 1. Acute Effect = no, if Acute Hazard Quotient < 1.
Chronic Effect		Chronic Effect = yes, if Chronic Hazard Quotient > 1. Chronic Effect = no, if Chronic Hazard Quotient < 1.

American Robin Egg - Intake

American robin intake, RCP

Static Smoke	Distance (m)	robin egg	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500		0.01	0.00167	1	16.7	0.038	0.00628	547.5	3.1E-06
	10000		0.005	0.00167	1	16.7	0.038	0.00628	547.5	1.5E-06
	18000		0.002	0.00167	1	16.7	0.038	0.00628	547.5	8.2E-07
	30000		0.001	0.00167	1	16.7	0.038	0.00628	547.5	3.1E-07
	50000		0.0005	0.00167	1	16.7	0.038	0.00628	547.5	1.5E-07
	50000+		0.0002	0.00167	1	16.7	0.038	0.00628	547.5	6.2E-08
	50000++		0.0001	0.00167	1	16.7	0.038	0.00628	547.5	3.1E-08

Pasquill Category E

American robin intake, OPTM

Static Smoke	Distance (m)	robin egg	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500		0.01	0.00187	1	7.1	0.038	0.00828	547.5	1.3E-08
	10000		0.005	0.00187	1	7.1	0.038	0.00828	547.5	8.8E-07
	18000		0.002	0.00187	1	7.1	0.038	0.00828	547.5	2.8E-07
	30000		0.001	0.00187	1	7.1	0.038	0.00828	547.5	1.3E-07
	50000		0.0005	0.00187	1	7.1	0.038	0.00828	547.5	8.8E-08
	50000++		0.0002	0.00187	1	7.1	0.038	0.00828	547.5	2.8E-08
	50000++		0.0001	0.00187	1	7.1	0.038	0.00828	547.5	1.3E-08

American robin intake, EPTM

[illegible]

Pasquill Category E

American robin intake, RCP

Mobile Smoke - Musgrave Hollow	Distance (m)	Fog Oil Concentration (g/m ³)	robin egg	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (µg/kg-day)
Dermal Absorption										
	7500	0.01		0.00187	1	35.2	0.038	0.00828	547.5	6.5E-08
	10000	0.005		0.00187	1	35.2	0.038	0.00828	547.5	3.3E-08
	18000	0.002		0.00187	1	35.2	0.038	0.00828	547.5	1.3E-08
	30000	0.001		0.00187	1	35.2	0.038	0.00828	547.5	6.5E-07
	50000	0.0005		0.00187	1	35.2	0.038	0.00828	547.5	3.3E-07
	50000+	0.0002		0.00187	1	35.2	0.038	0.00828	547.5	1.3E-07
	50000++	0.0001		0.00187	1	35.2	0.038	0.00828	547.5	6.5E-08

Pasquill Category E

American robin intake, OPTM

Mobile Smoke - Musgrave Hollow		robin egg										
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
Dermal Absorption	7500	0.01	0.00167	1	25.3	0.038	0.00628	547.5	4.7E-06			
	10000	0.005	0.00167	1	25.3	0.038	0.00628	547.5	2.3E-06			
	18000	0.002	0.00167	1	25.3	0.038	0.00628	547.5	9.4E-07			
	30000	0.001	0.00167	1	25.3	0.038	0.00628	547.5	4.7E-07			
	50000	0.0005	0.00167	1	25.3	0.038	0.00628	547.5	2.3E-07			
	50000+	0.0002	0.00167	1	25.3	0.038	0.00628	547.5	9.4E-08			
	50000++	0.0001	0.00167	1	25.3	0.038	0.00628	547.5	4.7E-08			

Pasquill Category E

American robin intake, EPTM

Mobile Smoke - Musgrave Hollow		robin egg		Skin Surface Area (m ²)		Abs	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
	Distance (m)	Fog Oil Concentration (g/m ³)									
Dermal Absorption											
	7500	0.01		0.00167		1	18.3	0.038	0.00628	547.5	3.0E-06
	10000	0.005		0.00167		1	18.3	0.038	0.00628	547.5	1.5E-06
	18000	0.002		0.00167		1	18.3	0.038	0.00628	547.5	8.0E-07
	30000	0.001		0.00167		1	18.3	0.038	0.00628	547.5	3.0E-07
	50000	0.0005		0.00167		1	18.3	0.038	0.00628	547.5	1.5E-07
	50000+	0.0002		0.00167		1	18.3	0.038	0.00628	547.5	8.0E-08
	50000++	0.0001		0.00167		1	18.3	0.038	0.00628	547.5	3.0E-08

Pasquill Category E

American robin intake, RCP

Mobile Smoke - Ballard Hollow or Wolf Hollow		robin egg							
	Distance (m)	Fog Oil Concentration (g/m ²)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption									
	7500	0.01	0.00187	1	17.6	0.038	0.00628	547.5	3.3E-06
	10000	0.005	0.00187	1	17.6	0.038	0.00628	547.5	1.6E-06
	18000	0.002	0.00187	1	17.6	0.038	0.00628	547.5	6.5E-07
	30000	0.001	0.00187	1	17.6	0.038	0.00628	547.5	3.3E-07
	50000	0.0005	0.00187	1	17.6	0.038	0.00628	547.5	1.6E-07
	50000+	0.0002	0.00187	1	17.6	0.038	0.00628	547.5	6.5E-08
	50000++	0.0001	0.00187	1	17.6	0.038	0.00628	547.5	3.3E-08

Pasquill Category E

American robin intake, OPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow			robin egg		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)								
Dermal Absorption	7500	0.01	0.00167		1	12.7	0.038	0.00626	547.5	2.3E-06
	10000	0.005	0.00167		1	12.7	0.038	0.00626	547.5	1.2E-06
	18000	0.002	0.00167		1	12.7	0.038	0.00626	547.5	4.7E-07
	30000	0.001	0.00167		1	12.7	0.038	0.00626	547.5	2.3E-07
	50000	0.0005	0.00167		1	12.7	0.038	0.00626	547.5	1.2E-07
	50000+	0.0002	0.00167		1	12.7	0.038	0.00626	547.5	4.7E-08
	50000++	0.0001	0.00167		1	12.7	0.038	0.00626	547.5	2.3E-08

American robin intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow			robin egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)	ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption										
	7500	0.01	0.00167	1	8.2	0.038	0.00626	547.5	1.5E-08	
	10000	0.005	0.00167	1	8.2	0.038	0.00626	547.5	7.6E-07	
	18000	0.002	0.00167	1	8.2	0.038	0.00626	547.5	3.0E-07	
	30000	0.001	0.00167	1	8.2	0.038	0.00626	547.5	1.5E-07	
	50000	0.0005	0.00167	1	8.2	0.038	0.00626	547.5	7.6E-08	
	50000+	0.0002	0.00167	1	8.2	0.038	0.00626	547.5	3.0E-08	
	50000++	0.0001	0.00167	1	8.2	0.038	0.00626	547.5	1.5E-08	

Pasquill Category E

American robin intake, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01		0.00167	1	22.0	0.038	0.00628	547.5	4.1E-06
	10000	0.005		0.00167	1	22.0	0.038	0.00628	547.5	2.0E-06
	15000	0.002		0.00167	1	22.0	0.038	0.00628	547.5	8.1E-07
	30000	0.001		0.00167	1	22.0	0.038	0.00628	547.5	4.1E-07
	50000	0.0005		0.00167	1	22.0	0.038	0.00628	547.5	2.0E-07
	50000+	0.0002		0.00167	1	22.0	0.038	0.00628	547.5	8.1E-08
	50000++	0.0001		0.00167	1	22.0	0.038	0.00628	547.5	4.1E-08

Pasquill Category E

American robin intake, OPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)			robin egg								
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)	
Dermal Absorption											
	7500	0.01		0.00187	1	15.8	0.038	0.00828	547.5	2.9E-08	
	10000	0.005		0.00187	1	15.8	0.038	0.00828	547.5	1.5E-08	
	18000	0.002		0.00187	1	15.8	0.038	0.00828	547.5	5.9E-07	
	30000	0.001		0.00187	1	15.8	0.038	0.00828	547.5	2.9E-07	
	50000	0.0005		0.00187	1	15.8	0.038	0.00828	547.5	1.5E-07	
	50000+	0.0002		0.00187	1	15.8	0.038	0.00828	547.5	5.9E-08	
	50000++	0.0001		0.00187	1	15.8	0.038	0.00828	547.5	2.9E-08	

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
	Distance (m)	Fog Oil Concentration (g/m ³)	robin egg		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
			Skin Surface Area (m ²)							
Dermal Absorption										
	7500	0.01		0.00167	1	10.2	0.038	0.00626	547.5	1.9E-08
	10000	0.005		0.00167	1	10.2	0.038	0.00626	547.5	9.5E-07
	18000	0.002		0.00167	1	10.2	0.038	0.00626	547.5	3.8E-07
	30000	0.001		0.00167	1	10.2	0.038	0.00626	547.5	1.9E-07
	50000	0.0005		0.00167	1	10.2	0.038	0.00626	547.5	9.5E-08
	50000+	0.0002		0.00167	1	10.2	0.038	0.00626	547.5	3.8E-08
	50000++	0.0001		0.00167	1	10.2	0.038	0.00626	547.5	1.9E-08

American robin intake, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			robin egg									
	Distance (m)	Fog Oil Concentration (g/m ²)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)		
Dermal Absorption												
	7500	0.01	0.00187		1	26.4	0.038	0.00628	547.5		4.9E-08	
	10000	0.005	0.00187		1	26.4	0.038	0.00628	547.5		2.4E-08	
	18000	0.002	0.00187		1	26.4	0.038	0.00628	547.5		9.8E-07	
	30000	0.001	0.00187		1	26.4	0.038	0.00628	547.5		4.9E-07	
	50000	0.0005	0.00187		1	26.4	0.038	0.00628	547.5		2.4E-07	
	50000+	0.0002	0.00187		1	26.4	0.038	0.00628	547.5		9.8E-08	
	50000++	0.0001	0.00187		1	26.4	0.038	0.00628	547.5		4.9E-08	

Pasquill Category E

American robin intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			robin egg									
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)		
Dermal Absorption	7500	0.01		0.00167	1	19.0	0.038	0.00626	547.5	3.5E-06		
	10000	0.005		0.00167	1	19.0	0.038	0.00626	547.5	1.8E-06		
	18000	0.002		0.00167	1	19.0	0.038	0.00626	547.5	7.0E-07		
	30000	0.001		0.00167	1	19.0	0.038	0.00626	547.5	3.5E-07		
	50000	0.0005		0.00167	1	19.0	0.038	0.00626	547.5	1.8E-07		
	50000+	0.0002		0.00167	1	19.0	0.038	0.00626	547.5	7.0E-08		
	50000++	0.0001		0.00167	1	19.0	0.038	0.00626	547.5	3.5E-08		

American robin intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			robin egg							
	Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)
Dermal Absorption										
	7500	0.01	0.00187		1	12.3	0.038	0.00826	547.5	2.3E-06
	10000	0.005	0.00187		1	12.3	0.038	0.00826	547.5	1.1E-06
	18000	0.002	0.00187		1	12.3	0.038	0.00826	547.5	4.5E-07
	30000	0.001	0.00187		1	12.3	0.038	0.00826	547.5	2.3E-07
	50000	0.0005	0.00187		1	12.3	0.038	0.00826	547.5	1.1E-07
	50000+	0.0002	0.00187		1	12.3	0.038	0.00826	547.5	4.5E-08
	50000++	0.0001	0.00187		1	12.3	0.038	0.00826	547.5	2.3E-08

Pasquill Category E

American Robin Egg - Risk

Static Smoke	Distance (m)	robin egg		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
		Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)											
Dermal Absorption	7500	1.0E-02	2.0E-02	3.1E-08	2	216	18	180	0.13	1.4E+00	8.0E-02	2.3E-06	No	No
	10000	5.0E-03	2.0E-02	1.5E-08	2	216	18	180	0.13	1.4E+00	4.0E-02	1.1E-06	No	No
	18000	2.0E-03	2.0E-02	6.2E-07	2	216	18	180	0.13	1.4E+00	1.6E-02	4.6E-07	No	No
	30000	1.0E-03	2.0E-02	3.1E-07	2	216	18	180	0.13	1.4E+00	8.0E-03	2.3E-07	No	No
	50000	5.0E-04	2.0E-02	1.5E-07	2	216	18	180	0.13	1.4E+00	4.0E-03	1.1E-07	No	No
	50000++	2.0E-04	2.0E-02	6.2E-08	2	216	18	180	0.13	1.4E+00	1.6E-03	4.6E-08	No	No
	50000++	1.0E-04	2.0E-02	3.1E-08	2	216	18	180	0.13	1.4E+00	8.0E-04	2.3E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Static Smoke	Distance (m)	Daily Intake (g/m ²)	robin egg	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02		2.0E-02	1.3E-06			16		0.13	1.4E+00	8.0E-02	9.7E-07	No	No
	10000	5.0E-03		2.0E-02	6.6E-07	2	216	16		0.13	1.4E+00	4.0E-02	4.9E-07	No	No
	18000	2.0E-03		2.0E-02	2.6E-07	2	216	16		0.13	1.4E+00	1.6E-02	1.9E-07	No	No
	30000	1.0E-03		2.0E-02	1.3E-07	2	216	16		0.13	1.4E+00	8.0E-03	9.7E-08	No	No
	50000	5.0E-04		2.0E-02	6.6E-08	2	216	16		0.13	1.4E+00	4.0E-03	4.9E-08	No	No
	50000+	2.0E-04		2.0E-02	2.6E-08	2	216	16		0.13	1.4E+00	1.6E-03	1.9E-08	No	No
	50000++	1.0E-04		2.0E-02	1.3E-08	2	216	16		0.13	1.4E+00	8.0E-04	9.7E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	Daily Active Intake Value (g/m ²)	robin egg	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption															
	7500	1.0E-02		2.0E-02	1.7E-07		216	16	160	0.13	1.4E+00	8.0E-02	1.3E-07	No	No
	10000	5.0E-03		2.0E-02	8.5E-08		216	16	160	0.13	1.4E+00	4.0E-02	6.3E-08	No	No
	18000	2.0E-03		2.0E-02	3.4E-08		216	16	160	0.13	1.4E+00	1.0E-02	2.5E-08	No	No
	30000	1.0E-03		2.0E-02	1.7E-08		216	16	160	0.13	1.4E+00	8.0E-03	1.3E-08	No	No
	50000	5.0E-04		2.0E-02	8.5E-09		216	16	160	0.13	1.4E+00	4.0E-03	6.3E-09	No	No
	50000+	2.0E-04		2.0E-02	3.4E-09		216	16	160	0.13	1.4E+00	1.0E-03	2.5E-09	No	No
	50000++	1.0E-04		2.0E-02	1.7E-09		216	16	160	0.13	1.4E+00	8.0E-04	1.3E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Musgrave Hollow			robin egg		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)											
Dermal Absorption														
7500	1.0E-02	2.0E-02	6.5E-06		2	216	16		180	0.13	8.0E-02	4.8E-08	No	No
10000	5.0E-03	2.0E-02	3.3E-06		2	216	16		180	0.13	4.0E-02	2.4E-08	No	No
18000	2.0E-03	2.0E-02	1.3E-06		2	216	16		180	0.13	1.6E-02	9.6E-07	No	No
30000	1.0E-03	2.0E-02	6.5E-07		2	216	16		180	0.13	8.0E-03	4.8E-07	No	No
50000	5.0E-04	2.0E-02	3.3E-07		2	216	16		180	0.13	4.0E-03	2.4E-07	No	No
50000+	2.0E-04	2.0E-02	1.3E-07		2	216	16		180	0.13	1.6E-03	9.6E-08	No	No
50000++	1.0E-04	2.0E-02	6.5E-08		2	216	16		180	0.13	8.0E-04	4.8E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		robin egg		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)											
Dermal Absorption	7500	1.0E-02	4.7E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-02	3.5E-06	No	No
	10000	5.0E-03	2.3E-06	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-02	1.7E-06	No	No
	18000	2.0E-03	9.4E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-02	6.9E-07	No	No
	30000	1.0E-03	4.7E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-03	3.5E-07	No	No
	50000	5.0E-04	2.3E-07	2	216	16	16	0.13	1.4E+00	1.4E+00	4.0E-03	1.7E-07	No	No
	50000+	2.0E-04	9.4E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	1.6E-03	6.9E-08	No	No
	50000++	1.0E-04	4.7E-08	2	216	16	16	0.13	1.4E+00	1.4E+00	8.0E-04	3.5E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow				robin egg															
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect					
Dermal Absorption	7500	1.0E-02	2.0E-02	3.0E-08	2	218	18	180	0.13	1.4E+00	8.0E-02	2.2E-08	No	No					
	10000	5.0E-03	2.0E-02	1.5E-08	2	218	18	180	0.13	1.4E+00	4.0E-02	1.1E-08	No	No					
	18000	2.0E-03	2.0E-02	8.0E-07	2	218	18	180	0.13	1.4E+00	1.6E-02	4.5E-07	No	No					
	30000	1.0E-03	2.0E-02	3.0E-07	2	218	18	180	0.13	1.4E+00	8.0E-03	2.2E-07	No	No					
	50000	5.0E-04	2.0E-02	1.5E-07	2	218	18	180	0.13	1.4E+00	4.0E-03	1.1E-07	No	No					
	50000+	2.0E-04	2.0E-02	6.0E-08	2	218	18	180	0.13	1.4E+00	1.6E-03	4.5E-08	No	No					
50000++	1.0E-04	2.0E-02	3.0E-08	2	218	18	180	0.13	1.4E+00	8.0E-04	2.2E-08	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Ballard Hollow or Wolf Hollow			robin egg																		
Daily Acute																					
Distance (m)	Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect								
Dermal Absorption																					
7500	1.0E-02	2.0E-02	3.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	2.4E-08	No	No								
10000	5.0E-03	2.0E-02	1.8E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	1.2E-08	No	No								
18000	2.0E-03	2.0E-02	6.5E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	4.8E-07	No	No								
30000	1.0E-03	2.0E-02	3.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.4E-07	No	No								
50000	5.0E-04	2.0E-02	1.6E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.2E-07	No	No								
50000+	2.0E-04	2.0E-02	6.5E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	4.8E-08	No	No								
50000++	1.0E-04	2.0E-02	3.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.4E-08	No	No								
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																					
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																					

Mobile Smoke - Ballard Hollow or Wolf Hollow			robin egg			*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)												
	Intake Value (g/m ²)															
Dermal Absorption	7500	1.0E-02	2.0E-02	2.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	1.7E-08	No	No		
	10000	5.0E-03	2.0E-02	1.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	8.7E-07	No	No		
	18000	2.0E-03	2.0E-02	4.7E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	3.5E-07	No	No		
	30000	1.0E-03	2.0E-02	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	1.7E-07	No	No		
	50000	5.0E-04	2.0E-02	1.2E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	8.7E-08	No	No		
	50000+	2.0E-04	2.0E-02	4.7E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	3.5E-08	No	No		
	50000++	1.0E-04	2.0E-02	2.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	1.7E-08	No	No		
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																

American robin risk, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow Daily Acute			robin egg		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)																					
Dermal Absorption																								
7500	1.0E-02	2.0E-02	1.5E-08	2	216	16	180	0.13	1.4E+00	8.0E-02	1.1E-08	No	No											
10000	5.0E-03	2.0E-02	7.6E-07	2	216	16	180	0.13	1.4E+00	4.0E-02	5.6E-07	No	No											
18000	2.0E-03	2.0E-02	3.0E-07	2	216	16	180	0.13	1.4E+00	1.6E-02	2.2E-07	No	No											
30000	1.5E-03	2.0E-02	1.5E-07	2	216	16	180	0.13	1.4E+00	8.0E-03	1.1E-07	No	No											
50000	5.0E-04	2.0E-02	7.6E-08	2	216	16	180	0.13	1.4E+00	4.0E-03	5.6E-08	No	No											
50000+	2.0E-04	2.0E-02	3.0E-08	2	216	16	180	0.13	1.4E+00	1.6E-03	2.2E-08	No	No											
50000++	1.0E-04	2.0E-02	1.5E-08	2	216	16	180	0.13	1.4E+00	8.0E-04	1.1E-08	No	No											
				*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																				
				**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																				

Pasquill Category E

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				robin egg															
Distance (m)	Daily Acute Intake Value (g/m ²)		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect					
Dermal Absorption																			
	7500	1.0E-02	2.0E-02	4.1E-06	2	218	16	180	0.13	1.4E+00	8.0E-02	3.0E-06	No	No					
	10000	5.0E-03	2.0E-02	2.0E-06	2	218	16	180	0.13	1.4E+00	4.0E-02	1.5E-06	No	No					
	18000	2.0E-03	2.0E-02	8.1E-07	2	218	16	180	0.13	1.4E+00	1.8E-02	6.0E-07	No	No					
	30000	1.0E-03	2.0E-02	4.1E-07	2	218	16	180	0.13	1.4E+00	8.0E-03	3.0E-07	No	No					
	50000	5.0E-04	2.0E-02	2.0E-07	2	218	16	180	0.13	1.4E+00	4.0E-03	1.5E-07	No	No					
	50000+	2.0E-04	2.0E-02	8.1E-08	2	218	16	180	0.13	1.4E+00	1.8E-03	6.0E-08	No	No					
	50000++	1.0E-04	2.0E-02	4.1E-08	2	218	16	180	0.13	1.4E+00	8.0E-04	3.0E-08	No	No					
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				robin egg		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Distance (m)	Daily Acute Intake Value (g/m ²)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)										
Dermal Absorption	7500	1.0E-02	2.0E-02	2.9E-08	2	216	16	16	160	0.13	1.4E+00	8.0E-02	2.2E-08	No	No
	10000	5.0E-03	2.0E-02	1.5E-08	2	216	16	16	160	0.13	1.4E+00	4.0E-02	1.1E-08	No	No
	18000	2.0E-03	2.0E-02	5.9E-07	2	216	16	16	160	0.13	1.4E+00	1.6E-02	4.3E-07	No	No
	30000	1.0E-03	2.0E-02	2.9E-07	2	216	16	16	160	0.13	1.4E+00	8.0E-03	2.2E-07	No	No
	50000	5.0E-04	2.0E-02	1.5E-07	2	216	16	16	160	0.13	1.4E+00	4.0E-03	1.1E-07	No	No
	50000+	2.0E-04	2.0E-02	5.9E-08	2	216	16	16	160	0.13	1.4E+00	1.6E-03	4.3E-08	No	No
	50000++	1.0E-04	2.0E-02	2.9E-08	2	216	16	16	160	0.13	1.4E+00	8.0E-04	2.2E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Pasquill Category E

Mobile Smoke - Cannon Range (Mush Paddle Hollow)				robin egg										
Distance (m)	Daily ACUTE		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Intake Value (g/m ²)	Intake Value (g/m ²)												
Dermal Absorption														
7500	1.0E-02	2.0E-02		1.9E-08	2	218	18	180	0.13	1.4E+00	8.0E-02	1.4E-08	No	No
10000	5.0E-03	2.0E-02	218	9.5E-07	2	218	18	180	0.13	1.4E+00	4.0E-02	7.0E-07	No	No
18000	2.0E-03	2.0E-02		3.9E-07	2	218	18	180	0.13	1.4E+00	1.6E-02	2.9E-07	No	No
30000	1.0E-03	2.0E-02	218	1.9E-07	2	218	18	180	0.13	1.4E+00	8.0E-03	1.4E-07	No	No
50000	5.0E-04	2.0E-02	218	9.5E-08	2	218	18	180	0.13	1.4E+00	4.0E-03	7.0E-08	No	No
50000+	2.0E-04	2.0E-02		3.9E-08	2	218	18	180	0.13	1.4E+00	1.6E-03	2.9E-08	No	No
50000++	1.0E-04	2.0E-02		1.9E-08	2	218	18	180	0.13	1.4E+00	8.0E-04	1.4E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

American robin risk, RCP

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			robin egg																			
	Daily Activity	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect										
Distance (m)	Intake Value (g/m ²)	Skin Surface Area (m ²)																				
Dermal Absorption																						
7500	1.0E-02	2.0E-02	4.9E-06	2	216	18	180	0.13	1.4E+00	8.0E-02	3.6E-06	No										
10000	5.0E-03	2.0E-02	2.4E-06	2	216	18	180	0.13	1.4E+00	4.0E-02	1.8E-06	No										
18000	2.0E-03	2.0E-02	9.8E-07	2	216	18	180	0.13	1.4E+00	1.9E-02	7.2E-07	No										
30000	1.0E-03	2.0E-02	4.9E-07	2	216	18	180	0.13	1.4E+00	8.0E-03	3.6E-07	No										
50000	5.0E-04	2.0E-02	2.4E-07	2	216	18	180	0.13	1.4E+00	1.9E-03	1.8E-07	No										
50000+	2.0E-04	2.0E-02	9.8E-08	2	216	18	180	0.13	1.4E+00	1.0E-03	7.2E-08	No										
50000++	1.0E-04	2.0E-02	4.9E-08	2	216	18	180	0.13	1.4E+00	8.0E-04	3.6E-08	No										
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																						
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																						

Pasquill Category E

Mobile Smoke - Bailey McCann Hollow or Babb Airfield				robin egg											
Distance (m)	Daily Acute		Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
	Intake Value (g/m ²)														
Dermal Absorption															
	7500	1.0E-02	2.0E-02	3.5E-08	2	216	16	180	0.13	1.4E+00	8.0E-02	2.8E-08	No	No	
	10000	5.0E-03	2.0E-02	1.8E-08	2	216	16	180	0.13	1.4E+00	4.0E-02	1.3E-08	No	No	
	18000	2.0E-03	2.0E-02	7.0E-07	2	216	16	180	0.13	1.4E+00	1.6E-02	5.2E-07	No	No	
	30000	1.0E-03	2.0E-02	3.5E-07	2	216	16	180	0.13	1.4E+00	8.0E-03	2.8E-07	No	No	
	50000	5.0E-04	2.0E-02	1.8E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	1.3E-07	No	No	
	50000+	2.0E-04	2.0E-02	7.0E-08	2	216	16	180	0.13	1.4E+00	1.6E-03	5.2E-08	No	No	
	50000++	1.0E-04	2.0E-02	3.5E-08	2	216	16	180	0.13	1.4E+00	8.0E-04	2.8E-08	No	No	
				Palmer 1990											
				Critical Study: Palmer 1990											
				Critical Study: Lewis 1989											

Mobile Smoke - Bailey McCann Hollow or Babb Airfield			robin egg		Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Chronic TRV (g/kg)		Acute TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption																								
7500	1.0E-02	2.0E-02	2.3E-08	2	216	18	180	0.13	1.4E+00	8.0E-02	1.7E-08	No	No											
10000	5.0E-03	2.0E-02	1.1E-08	2	216	16	180	0.13	1.4E+00	4.0E-02	8.4E-07	No	No											
18000	2.0E-03	2.0E-02	4.5E-07	2	216	16	180	0.13	1.4E+00	1.6E-02	3.4E-07	No	No											
50000	1.0E-03	2.0E-02	2.3E-07	2	216	16	180	0.13	1.4E+00	8.0E-03	1.7E-07	No	No											
50000+	5.0E-04	2.0E-02	1.1E-07	2	216	16	180	0.13	1.4E+00	4.0E-03	8.4E-08	No	No											
50000++	2.0E-04	2.0E-02	4.5E-08	2	216	16	180	0.13	1.4E+00	1.6E-03	3.4E-08	No	No											
50000+++	1.0E-04	2.0E-02	2.3E-08	2	216	16	180	0.13	1.4E+00	8.0E-04	1.7E-08	No	No											
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																								
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																								

American Robin Chick - Intake

American robin intake, RCP

[illegible]

[illegible]

American robin intake, EPTM

[illegible]

Pasquill Category E

American robin intake, RCP

[illegible]

Pasquill Category E

[illegible]

American robin intake, EPTM

[illegible]

Pasquill Category E

[illegible]

[illegible]

American robin intake, EPTM

Mobile Smoke - Ballard Hollow or Wolf Hollow			robin chick										
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)		EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
Inhalation			Daily IR	Hourly IR	Event IR								
	3000	0.01	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	2.7E-07			
	4000	0.005	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	1.4E-07			
	7000	0.002	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	5.4E-08			
	10000	0.001	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	2.7E-08			
	16000	0.0005	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	1.4E-08			
	30000	0.0002	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	5.4E-09			
	50000	0.0001	2.5E-02	1.1E-03	2.6E-03	8.2	0.038	0.055	547.5	2.7E-09			
Ingestion		Fog Oil Deposition (g/m ²)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)			
	7500	0.01	7.8E-08	8.0E-07	8.4E-06	1.2E+01	8.2	0.038	0.055	547.5			
	10000	0.005	3.9E-08	3.0E-07	4.2E-06	1.2E+01	8.2	0.038	0.055	547.5			
	18000	0.002	1.6E-08	1.2E-07	1.7E-06	1.2E+01	8.2	0.038	0.055	547.5			
	30000	0.001	7.8E-07	8.0E-08	8.4E-07	1.2E+01	8.2	0.038	0.055	547.5			
	50000	0.0005	3.9E-07	3.0E-08	4.2E-07	1.2E+01	8.2	0.038	0.055	547.5			
	50000++	0.0002	1.6E-07	1.2E-08	1.7E-07	1.2E+01	8.2	0.038	0.055	547.5			
	50000++	0.0001	7.8E-08	6.0E-08	8.4E-08	1.2E+01	8.2	0.038	0.055	547.5			
Dermal Absorption		Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)			
	7500	0.01	0.0145		1	8.2	0.038	0.055	547.5	1.5E-06			
	10000	0.005	0.0145		1	8.2	0.038	0.055	547.5	7.5E-07			
	18000	0.002	0.0145		1	8.2	0.038	0.055	547.5	3.0E-07			
	30000	0.001	0.0145		1	8.2	0.038	0.055	547.5	1.5E-07			
	50000	0.0005	0.0145		1	8.2	0.038	0.055	547.5	7.5E-08			
	50000++	0.0002	0.0145		1	8.2	0.038	0.055	547.5	3.0E-08			
	50000++	0.0001	0.0145		1	8.2	0.038	0.055	547.5	1.5E-08			

American robin intake, RCP

Mobile Smoke - Cannon Range (Mush Paddle Hollow)													
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)				
		Daily IR	Hourly IR	Event IR									
Inhalation													
3000	0.01	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	7.3E-07				
4000	0.005	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	3.6E-07				
7000	0.002	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	1.5E-07				
10000	0.001	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	7.3E-08				
18000	0.0005	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	3.6E-08				
30000	0.0002	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	1.5E-08				
50000	0.0001	2.5E-02	1.1E-03	2.6E-03	22.0	0.038	0.055	547.5	7.3E-09				
Distance (m)	Fog Oil Deposition (g/m ²)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	Intake Rate (g/day)		EF (days/yr)	ED (yrs)	BW (kg)	Daily Chronic Intake Value (g/kg-day)				
				Daily IR									
7500	0.01	7.8E-08	6.0E-07	8.4E-08	1.2E+01	22.0	0.038	0.055	547.5				
10000	0.005	3.9E-08	3.0E-07	4.2E-08	1.2E+01	22.0	0.038	0.055	547.5				
18000	0.002	1.6E-08	1.2E-07	1.7E-08	1.2E+01	22.0	0.038	0.055	547.5				
30000	0.001	7.8E-07	6.0E-08	8.4E-07	1.2E+01	22.0	0.038	0.055	547.5				
50000	0.0005	3.9E-07	3.0E-08	4.2E-07	1.2E+01	22.0	0.038	0.055	547.5				
50000++	0.0002	1.6E-07	1.2E-08	1.7E-07	1.2E+01	22.0	0.038	0.055	547.5				
50000++	0.0001	7.8E-08	6.0E-08	8.4E-08	1.2E+01	22.0	0.038	0.055	547.5				
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermally Absorbed Dose (g/kg-day)				
		ABS											
Dermal Absorption													
7500	0.01	0.0145	1	1	22.0	0.038	0.055	547.5	4.0E-08				
10000	0.005	0.0145	1	1	22.0	0.038	0.055	547.5	2.0E-08				
18000	0.002	0.0145	1	1	22.0	0.038	0.055	547.5	8.0E-07				
30000	0.001	0.0145	1	1	22.0	0.038	0.055	547.5	4.0E-07				
50000	0.0005	0.0145	1	1	22.0	0.038	0.055	547.5	2.0E-07				
50000++	0.0002	0.0145	1	1	22.0	0.038	0.055	547.5	8.0E-08				
50000++	0.0001	0.0145	1	1	22.0	0.038	0.055	547.5	4.0E-08				

Pasquill Category E

[illegible]

American robin intake, EPTM

Mobile Smoke - Cannon Range (Mush Paddle Hollow)										
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			robin chick	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)
		Daily IR	Hourly IR	Event IR						
Inhalation										
3000	0.01	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	3.4E-07
4000	0.005	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	1.7E-07
7000	0.002	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	8.8E-08
10000	0.001	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	3.4E-08
18000	0.0005	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	1.7E-08
30000	0.0002	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	8.8E-09
50000	0.0001	2.5E-02	1.1E-03	2.8E-03		10.2	0.038	0.055	547.5	3.4E-09

Pasquill Category E

[illegible]

American robin intake, OPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield												
	Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
			Daily IR	Hourly IR	Event IR							
Inhalation	3000	0.01	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			0.3E-07
	4000	0.005	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			3.1E-07
	7000	0.002	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			1.3E-07
	10000	0.001	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			0.3E-08
	16000	0.0005	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			3.1E-08
	30000	0.0002	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			1.3E-08
	50000	0.0001	2.5E-02	1.1E-03	2.9E-03	19.0	0.038	0.055	547.5			0.3E-09

American robin intake, EPTM

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										robin chick	
Distance (m)	Fog Oil Concentration (g/m ³)	Intake Rate (m ³ /day)			EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)		
		Daily IR	Hourly IR	Event IR							
Inhalation											
3000	0.01	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	4.1E-07	
4000	0.005	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	2.0E-07	
7000	0.002	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	8.1E-08	
10000	0.001	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	4.1E-08	
16000	0.0005	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	2.0E-08	
30000	0.0002	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	8.1E-09	
50000	0.0001	2.5E-02	1.1E-03	2.8E-03	12.3	0.038	0.055	547.5	547.5	4.1E-09	
Distance (m)	Fog Oil Deposition (g/m ³)	Prey 1 CF (g/g)	Prey 2 CF (g/g)	CF (g/g)	Intake Rate (g/day)	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Daily Chronic Intake Value (g/kg-day)	
Ingestion											
7500	0.01	7.8E-08	6.0E-07	8.4E-08	1.2E+01	12.3	0.038	0.055	547.5	1.6E-08	
10000	0.005	3.9E-08	3.0E-07	4.2E-08	1.2E+01	12.3	0.038	0.055	547.5	7.8E-07	
18000	0.002	1.6E-08	1.2E-07	1.7E-08	1.2E+01	12.3	0.038	0.055	547.5	3.1E-07	
30000	0.001	7.8E-07	6.0E-08	8.4E-07	1.2E+01	12.3	0.038	0.055	547.5	1.6E-07	
50000	0.0005	3.9E-07	3.0E-08	4.2E-07	1.2E+01	12.3	0.038	0.055	547.5	7.8E-08	
50000+	0.0002	1.6E-07	1.2E-08	1.7E-07	1.2E+01	12.3	0.038	0.055	547.5	3.1E-08	
50000++	0.0001	7.8E-08	6.0E-09	8.4E-08	1.2E+01	12.3	0.038	0.055	547.5	1.6E-08	
Distance (m)	Fog Oil Concentration (g/m ³)	Skin Surface Area (m ²)		ABS	EF (days/yr)	ED (yrs)	BW (kg)	AT (days)	Dermal Absorbed Dose (g/kg-day)		
Dermal Absorption											
7500	0.01		0.0145	1	12.3	0.038	0.055	547.5	2.2E-08		
10000	0.005		0.0145	1	12.3	0.038	0.055	547.5	1.1E-08		
18000	0.002		0.0145	1	12.3	0.038	0.055	547.5	4.5E-07		
30000	0.001		0.0145	1	12.3	0.038	0.055	547.5	2.2E-07		
50000	0.0005		0.0145	1	12.3	0.038	0.055	547.5	1.1E-07		
50000+	0.0002		0.0145	1	12.3	0.038	0.055	547.5	4.5E-08		
50000++	0.0001		0.0145	1	12.3	0.038	0.055	547.5	2.2E-08		

Pasquill Category E

American Robin Chick - Risk

Static Smoke	Distance (m)	robin chick	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000	1.0E-02	3.3E-07	60	0.1	16	180	180	3.75	6.3E-04	1.8E-05	2.7E-03	2.1E-02	No	No
	5000	5.0E-03	1.7E-07	60	0.1	18	180	180	3.75	6.3E-04	1.8E-05	1.3E-03	1.1E-02	No	No
	9000	2.0E-03	6.8E-08	60	0.1	16	180	180	3.75	6.3E-04	1.8E-05	5.3E-04	4.2E-03	No	No
	14000	1.0E-03	3.3E-08	60	0.1	16	180	180	3.75	6.3E-04	1.8E-05	2.7E-04	2.1E-03	No	No
	24000	5.0E-04	1.7E-08	60	0.1	18	180	180	3.75	6.3E-04	1.8E-05	1.3E-04	1.1E-03	No	No
	50000	2.0E-04	6.8E-09	60	0.1	16	180	180	3.75	6.3E-04	1.8E-05	5.3E-05	4.2E-04	No	No
	50000+	1.0E-04	3.3E-09	60	0.1	16	180	180	3.75	6.3E-04	1.8E-05	2.7E-05	2.1E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500	8.4E-08	2.1E-08	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-04	No	No
	10000	4.2E-08	1.1E-08	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	3.8E-08	7.7E-05	No	No
	15000	1.7E-08	4.2E-07	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	1.5E-08	3.1E-05	No	No
	30000	8.4E-07	2.1E-07	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	7.6E-07	1.9E-05	No	No
	50000	4.2E-07	1.1E-07	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	3.8E-07	7.7E-06	No	No
	50000+	1.7E-07	4.2E-08	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	1.5E-07	3.1E-06	No	No
	50000++	8.4E-08	2.1E-08	17.8	22	16	1800	1800	1.10	1.4E-02	1.4E-02	7.6E-08	1.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500	1.0E-02	2.0E-02	3.0E-08	2	216	180	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.3E-08	No	No
	10000	5.0E-03	2.0E-02	1.5E-08	2	216	180	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.1E-08	No	No
	15000	2.0E-03	2.0E-02	6.1E-07	2	216	180	180	0.13	1.4E+00	1.4E+00	1.6E-02	4.5E-07	No	No
	30000	1.0E-03	2.0E-02	3.0E-07	2	216	180	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.3E-07	No	No
	50000	5.0E-04	2.0E-02	1.5E-07	2	216	180	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.1E-07	No	No
	50000+	2.0E-04	2.0E-02	6.1E-08	2	216	180	180	0.13	1.4E+00	1.4E+00	1.6E-03	4.5E-08	No	No
	50000++	1.0E-04	2.0E-02	3.0E-08	2	216	180	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.3E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	robin chick	Daily Chronic Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000	1.0E-02	1.4E-07	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	2.7E-03	8.9E-03	No	No
	5000	5.0E-03	7.0E-08	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	1.3E-03	4.5E-03	No	No
	9000	2.0E-03	2.8E-08	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	5.3E-04	1.8E-03	No	No
	14000	1.0E-03	1.4E-08	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	2.7E-04	8.9E-04	No	No
	24000	5.0E-04	7.0E-09	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	1.3E-04	4.5E-04	No	No
	50000	2.0E-04	2.8E-09	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	5.3E-05	1.8E-04	No	No
	50000+	1.0E-04	1.4E-09	60	0.1	0.1	18	180	3.75	6.3E-04	1.8E-05	2.7E-05	8.9E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500	8.4E-06	9.0E-07	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	7.6E-06	6.5E-05	No	No
	10000	4.2E-06	4.5E-07	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	3.8E-06	3.3E-05	No	No
	18000	1.7E-06	1.8E-07	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	1.5E-06	1.3E-05	No	No
	30000	8.4E-07	9.0E-08	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	7.6E-07	6.5E-06	No	No
	50000	4.2E-07	4.5E-08	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	3.8E-07	3.3E-06	No	No
	50000+	1.7E-07	1.8E-08	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	1.5E-07	1.3E-06	No	No
	50000++	8.4E-08	9.0E-09	17.6	22	22	18	1800	1.10	1.4E-02	1.4E-02	7.6E-08	6.5E-07	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500	1.0E-02	1.3E-08	2	218	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	9.6E-07	No	No
	10000	5.0E-03	6.5E-07	2	218	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	4.8E-07	No	No
	18000	2.0E-03	2.6E-07	2	218	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	1.9E-07	No	No
	30000	1.0E-03	1.3E-07	2	218	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	9.6E-08	No	No
	50000	5.0E-04	6.5E-08	2	218	218	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	4.8E-08	No	No
	50000+	2.0E-04	2.6E-08	2	218	218	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	1.9E-08	No	No
	50000++	1.0E-04	1.3E-08	2	218	218	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	9.6E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Static Smoke	Distance (m)	robin chick	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation															
	4000		1.0E-02	1.8E-08	60	0.1	16	160	3.75	6.3E-04	1.8E-05	2.7E-03	1.2E-03	No	No
	5000		5.0E-03	9.1E-09	80	0.1	16	160	3.75	6.3E-04	1.8E-05	1.3E-03	5.8E-04	No	No
	9000		2.0E-03	3.8E-09	80	0.1	16	160	3.75	6.3E-04	1.8E-05	5.3E-04	2.3E-04	No	No
	14000		1.0E-03	1.8E-09	80	0.1	16	160	3.75	6.3E-04	1.8E-05	2.7E-04	1.2E-04	No	No
	24000		5.0E-04	9.1E-10	80	0.1	16	160	3.75	6.3E-04	1.8E-05	1.3E-04	5.8E-05	No	No
	50000		2.0E-04	3.8E-10	80	0.1	16	160	3.75	6.3E-04	1.8E-05	5.3E-05	2.3E-05	No	No
	50000+		1.0E-04	1.8E-10	80	0.1	16	160	3.75	6.3E-04	1.8E-05	2.7E-05	1.2E-05	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Ingestion															
	7500		8.4E-08	1.2E-07	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	7.8E-08	8.5E-08	No	No
	10000		4.2E-08	5.8E-08	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.9E-08	4.2E-08	No	No
	18000		1.7E-08	2.3E-08	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.9E-08	1.7E-08	No	No
	30000		8.4E-07	1.2E-08	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	7.8E-07	8.5E-07	No	No
	50000		4.2E-07	5.8E-09	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	3.9E-07	4.2E-07	No	No
	50000+		1.7E-07	2.3E-09	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	1.9E-07	1.7E-07	No	No
	50000++		8.4E-08	1.2E-09	17.6	22	16	1800	1.10	1.4E-02	1.4E-02	7.8E-08	8.5E-08	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Barmachani 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Dermal Absorption															
	7500		1.0E-02	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-02	1.2E-07	No	No
	10000		5.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	6.2E-08	No	No
	18000		2.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-02	2.5E-08	No	No
	30000		1.0E-03	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	1.2E-08	No	No
	50000		5.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	6.2E-09	No	No
	50000+		2.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	1.8E-03	2.5E-09	No	No
	50000++		1.0E-04	2.0E-02	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	1.2E-09	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Musgrave Hollow				robin chick															
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Inhalation																			
3000	1.0E-02	1.2E-06	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-03	7.4E-02	No	No						
4000	5.0E-03	5.8E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-03	3.7E-02	No	No						
7000	2.0E-03	2.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-04	1.5E-02	No	No						
10000	1.0E-03	1.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-04	7.4E-03	No	No						
16000	5.0E-04	5.8E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-04	3.7E-03	No	No						
30000	2.0E-04	2.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-05	1.5E-03	No	No						
50000	1.0E-04	1.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-05	7.4E-04	No	No						
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																			
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																			
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Ingestion																			
7500	8.4E-06	4.5E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-06	3.3E-04	No	No						
10000	4.2E-06	2.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-06	1.6E-04	No	No						
16000	1.7E-06	8.9E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-06	6.5E-05	No	No						
30000	8.4E-07	4.5E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-07	3.3E-05	No	No						
50000	4.2E-07	2.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.6E-05	No	No						
50000+	1.7E-07	8.9E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-07	6.5E-06	No	No						
50000++	8.4E-08	4.5E-08	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.6E-08	3.3E-06	No	No						
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																			
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																			
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect						
Dermal Absorption																			
7500	1.0E-02	6.4E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	6.0E-02	4.8E-06	No	No						
10000	5.0E-03	3.2E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-02	2.4E-06	No	No						
16000	2.0E-03	1.6E-06	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-02	9.5E-07	No	No						
30000	1.0E-03	8.4E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-03	4.8E-07	No	No						
50000	5.0E-04	3.2E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	4.0E-03	2.4E-07	No	No						
50000+	2.0E-04	1.3E-07	2	216	16	160	0.13	1.4E+00	1.4E+00	1.6E-03	9.5E-08	No	No						
50000++	1.0E-04	6.4E-08	2	216	16	160	0.13	1.4E+00	1.4E+00	8.0E-04	4.8E-08	No	No						
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Musgrave Hollow			robin chick											
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation														
	3000	1.0E-02	8.4E-07	60	0.1	16	180	3.75	6.3E-04	1.6E-05	2.7E-03	5.3E-02	No	No
	4000	5.0E-03	4.2E-07	60	0.1	16	180	3.75	6.3E-04	1.6E-05	1.3E-03	2.7E-02	No	No
	7000	2.0E-03	1.7E-07	60	0.1	16	180	3.75	6.3E-04	1.6E-05	5.3E-04	1.1E-02	No	No
	10000	1.0E-03	8.4E-08	60	0.1	16	180	3.75	6.3E-04	1.6E-05	2.7E-04	5.3E-03	No	No
	16000	5.0E-04	4.2E-08	60	0.1	16	180	3.75	6.3E-04	1.6E-05	1.3E-04	2.7E-03	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
	7500	8.4E-06	3.2E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-08	2.3E-04	No	No
	10000	4.2E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-08	1.2E-04	No	No
	18000	1.7E-06	6.4E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	1.5E-08	4.7E-05	No	No
	30000	8.4E-07	3.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	7.8E-07	2.3E-05	No	No
	50000	4.2E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	1.4E-02	3.8E-07	1.2E-05	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Birmachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
	7500	1.0E-02	2.0E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-02	3.4E-06	No	No
	10000	5.0E-03	2.0E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.7E-06	No	No
	18000	2.0E-03	2.0E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	1.8E-02	6.9E-07	No	No
	30000	1.0E-03	2.0E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	8.0E-03	3.4E-07	No	No
	50000	5.0E-04	2.0E-02	2	216	16	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.7E-07	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Musgrave Hollow		robin chick		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	Daily Acute Intake Value (g/m ³)											
Inhalation														
3000	1.0E-02	5.4E-07	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	2.7E-03	3.4E-02	No	No
4000	5.0E-03	2.7E-07	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	1.3E-03	1.7E-02	No	No
7000	2.0E-03	1.1E-07	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	5.3E-04	6.9E-03	No	No
10000	1.0E-03	5.4E-08	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	2.7E-04	3.4E-03	No	No
18000	5.0E-04	2.7E-08	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	1.3E-04	1.7E-03	No	No
30000	2.0E-04	1.1E-08	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	5.3E-05	6.9E-04	No	No
50000	1.0E-04	5.4E-09	60	0.1	18	180	180	3.75	6.3E-04	1.6E-05	2.7E-05	3.4E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1982														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion														
7500	8.4E-08	2.1E-08	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	7.8E-08	1.5E-04	No	No
10000	4.2E-08	1.0E-08	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	3.8E-08	7.5E-05	No	No
18000	1.7E-08	4.2E-09	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	1.5E-08	3.0E-05	No	No
30000	8.4E-09	2.1E-09	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	7.8E-09	1.5E-05	No	No
50000	4.2E-09	1.0E-09	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	3.8E-09	7.5E-06	No	No
50000+	1.7E-09	4.2E-09	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	1.5E-09	3.0E-06	No	No
50000++	8.4E-09	2.1E-09	17.8	22	18	1800	1800	1.10	1.4E-02	1.4E-02	7.8E-09	1.5E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption														
7500	1.0E-02	3.0E-08	2	216	18	180	180	0.13	1.4E+00	1.4E+00	8.0E-02	2.2E-08	No	No
10000	5.0E-03	1.5E-08	2	216	18	180	180	0.13	1.4E+00	1.4E+00	4.0E-02	1.1E-08	No	No
18000	2.0E-03	6.0E-09	2	216	18	180	180	0.13	1.4E+00	1.4E+00	1.6E-02	4.4E-07	No	No
30000	1.0E-03	3.0E-09	2	216	18	180	180	0.13	1.4E+00	1.4E+00	8.0E-03	2.2E-07	No	No
50000	5.0E-04	1.5E-09	2	216	18	180	180	0.13	1.4E+00	1.4E+00	4.0E-03	1.1E-07	No	No
50000+	2.0E-04	6.0E-09	2	216	18	180	180	0.13	1.4E+00	1.4E+00	1.6E-03	4.4E-08	No	No
50000++	1.0E-04	3.0E-09	2	216	18	180	180	0.13	1.4E+00	1.4E+00	8.0E-04	2.2E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

Mobile Smoke - Ballard Hollow or Wolf Hollow		robin chick		Chronic Toxicity Value (g/m ³)		Acute Toxicity Value (g/m ³)		Chronic TRV Uncertainty Adjustment		Acute TRV Uncertainty Adjustment		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect	
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect											
Inhalation																							
3000	1.0E-02	5.8E-07	60	0.1	18	180	3.75	6.3E-04	2.7E-03	3.7E-02	No	No											
4000	5.0E-03	2.9E-07	60	0.1	18	180	3.75	6.3E-04	1.3E-03	1.8E-02	No	No											
7000	2.0E-03	1.2E-07	60	0.1	18	180	3.75	6.3E-04	5.3E-04	7.4E-03	No	No											
10000	1.0E-03	5.8E-08	60	0.1	18	180	3.75	6.3E-04	2.7E-04	3.7E-03	No	No											
18000	5.0E-04	2.9E-08	60	0.1	18	180	3.75	6.3E-04	1.3E-04	1.8E-03	No	No											
30000	2.0E-04	1.2E-08	60	0.1	18	180	3.75	6.3E-04	5.3E-05	7.4E-04	No	No											
50000	1.0E-04	5.8E-09	60	0.1	18	180	3.75	6.3E-04	2.7E-05	3.7E-04	No	No											
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																							
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																							
Ingestion																							
7500	8.4E-08	2.2E-08	17.6	22	18	1800	1.10	1.4E-02	7.8E-08	1.8E-04	No	No											
10000	4.2E-08	1.1E-08	17.6	22	18	1800	1.10	1.4E-02	3.8E-08	8.1E-05	No	No											
18000	1.7E-08	4.5E-07	17.6	22	18	1800	1.10	1.4E-02	1.5E-08	3.3E-05	No	No											
30000	8.4E-07	2.2E-07	17.6	22	18	1800	1.10	1.4E-02	7.8E-07	1.8E-05	No	No											
50000	4.2E-07	1.1E-07	17.6	22	18	1800	1.10	1.4E-02	3.8E-07	8.1E-06	No	No											
50000+	1.7E-07	4.5E-08	17.6	22	18	1800	1.10	1.4E-02	1.5E-07	3.3E-06	No	No											
50000++	8.4E-08	2.2E-08	17.6	22	18	1800	1.10	1.4E-02	7.8E-08	1.8E-06	No	No											
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1953																							
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																							
Dermal Absorption																							
7500	1.0E-02	2.0E-02	2	216	18	180	0.13	1.4E+00	8.0E-02	2.4E-08	No	No											
10000	5.0E-03	1.0E-02	2	216	18	180	0.13	1.4E+00	4.0E-02	1.2E-08	No	No											
18000	2.0E-03	6.4E-07	2	216	18	180	0.13	1.4E+00	1.6E-02	4.8E-07	No	No											
30000	1.0E-03	3.2E-07	2	216	18	180	0.13	1.4E+00	8.0E-03	2.4E-07	No	No											
50000	5.0E-04	1.6E-07	2	216	18	180	0.13	1.4E+00	4.0E-03	1.2E-07	No	No											
50000+	2.0E-04	6.4E-08	2	216	18	180	0.13	1.4E+00	1.6E-03	4.8E-08	No	No											
50000++	1.0E-04	3.2E-08	2	216	18	180	0.13	1.4E+00	8.0E-04	2.4E-08	No	No											
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																							
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																							

Mobile Smoke - Ballard Hollow or Wolf Hollow		robin chick		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)												
Inhalation														
	3000	1.0E-02	4.2E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-03	2.7E-02	No	No
	4000	5.0E-03	2.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-03	1.3E-02	No	No
	7000	2.0E-03	8.4E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-04	5.3E-03	No	No
	10000	1.0E-03	4.2E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-04	2.7E-03	No	No
	16000	5.0E-04	2.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-04	1.3E-03	No	No
	30000	2.0E-04	8.4E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-05	5.3E-04	No	No
	50000	1.0E-04	4.2E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-05	2.7E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987														
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992														
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Ingestion														
	7500	8.4E-06	1.6E-06	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	1.2E-04	No	No	
	10000	4.2E-06	8.1E-07	17.6	22	16	1600	1.10	1.4E-02	3.8E-08	5.9E-05	No	No	
	18000	1.7E-06	3.2E-07	17.6	22	16	1600	1.10	1.4E-02	1.5E-08	2.3E-05	No	No	
	30000	8.4E-07	1.6E-07	17.6	22	16	1600	1.10	1.4E-02	7.6E-07	1.2E-05	No	No	
	50000	4.2E-07	8.1E-08	17.6	22	16	1600	1.10	1.4E-02	3.8E-07	5.9E-06	No	No	
	50000+	1.7E-07	3.2E-08	17.6	22	16	1600	1.10	1.4E-02	1.5E-07	2.3E-06	No	No	
	50000++	8.4E-08	1.6E-08	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	1.2E-06	No	No	
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958														
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989														
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect	
Dermal Absorption														
	7500	1.0E-02	2.3E-06	2	216	16	160	0.13	1.4E+00	8.0E-02	1.7E-06	No	No	
	10000	5.0E-03	1.2E-06	2	216	16	160	0.13	1.4E+00	4.0E-02	8.6E-07	No	No	
	18000	2.0E-03	4.6E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	3.4E-07	No	No	
	30000	1.0E-03	2.3E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	1.7E-07	No	No	
	50000	5.0E-04	1.2E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	8.6E-08	No	No	
	50000+	2.0E-04	4.6E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	3.4E-08	No	No	
	50000++	1.0E-04	2.3E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	1.7E-08	No	No	
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990														
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989														

[illegible]

Mobile Smoke - Cannon Range (Mush Paddle Hollow)									
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/m ³)	Acute TRV (g/m ³)	Chronic TRV (g/m ³)
Inhalation									
3000	1.0E-02	7.3E-07	60	0.1	18	18	6.3E-04	3.75	1.6E-05
4000	5.0E-03	3.9E-07	60	0.1	18	18	6.3E-04	3.75	1.6E-05
7000	2.0E-03	1.5E-07	60	0.1	18	18	6.3E-04	3.75	1.6E-05
10000	1.0E-03	7.3E-08	60	0.1	18	18	6.3E-04	3.75	1.6E-05
16000	5.0E-04	3.9E-08	60	0.1	18	18	6.3E-04	3.75	1.6E-05
30000	2.0E-04	1.5E-08	60	0.1	18	18	6.3E-04	3.75	1.6E-05
50000	1.0E-04	7.3E-09	60	0.1	18	18	6.3E-04	3.75	1.6E-05
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987									
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Diver et al. 1992									
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)
Ingestion									
7500	8.4E-08	2.8E-08	17.6	22	18	1800	1.10	1.10	1.4E-02
10000	4.2E-08	1.4E-08	17.6	22	18	1800	1.10	1.10	1.4E-02
18000	1.7E-08	5.6E-07	17.6	22	18	1800	1.10	1.10	1.4E-02
30000	8.4E-07	2.8E-07	17.6	22	18	1800	1.10	1.10	1.4E-02
50000	4.2E-07	1.4E-07	17.6	22	18	1800	1.10	1.10	1.4E-02
50000++	1.7E-07	5.6E-08	17.6	22	18	1800	1.10	1.10	1.4E-02
50000+++	8.4E-08	2.8E-08	17.6	22	18	1800	1.10	1.10	1.4E-02
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachan 1958									
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989									
Distance (m)	Daily Acute Intake Value (g/m ²)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Chronic TRV (g/kg)	Acute TRV (g/kg)	Chronic TRV (g/kg)
Dermal Absorption									
7500	1.0E-02	2.0E-02	2	216	18	180	0.13	0.13	1.4E+00
10000	5.0E-03	2.0E-02	2	216	18	180	0.13	0.13	1.4E+00
18000	2.0E-03	8.0E-07	2	216	18	180	0.13	0.13	1.4E+00
30000	1.0E-03	4.0E-07	2	216	18	180	0.13	0.13	1.4E+00
50000	5.0E-04	2.0E-07	2	216	18	180	0.13	0.13	1.4E+00
50000+	2.0E-04	8.0E-08	2	216	18	180	0.13	0.13	1.4E+00
50000+++	1.0E-04	4.0E-08	2	216	18	180	0.13	0.13	1.4E+00
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990									
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989									

Mobile Smoke - Cannon Range (Mush Paddle Hollow)														robin chick															
Distance (m)		Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/m ³)		Chronic TRV (g/m ³)		Chronic Dose Adjusted TRV (g/kg-day)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect			
Inhalation		3000	1.0E-02	5.2E-07	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-03	3.3E-02	No	No														
		4000	5.0E-03	2.6E-07	60	0.1	18	180	3.75	6.3E-04	1.6E-05	1.3E-03	1.7E-02	No	No														
		7000	2.0E-03	1.0E-07	60	0.1	18	180	3.75	6.3E-04	1.6E-05	5.3E-04	6.7E-03	No	No														
		10000	1.0E-03	5.2E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-04	3.3E-03	No	No														
		16000	2.6E-08	2.6E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	1.3E-04	1.7E-03	No	No														
		30000	5.0E-04	1.0E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	5.3E-05	6.7E-04	No	No														
		50000	1.0E-04	5.2E-09	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-05	3.3E-04	No	No														
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																													
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																													
Distance (m)		Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect			
Ingestion		7500	8.4E-06	2.0E-06	17.8	22	18	1800	1.10	1.4E-02	7.8E-08	1.5E-04	No	No															
		10000	4.2E-06	1.0E-06	17.8	22	18	1800	1.10	1.4E-02	3.9E-08	7.3E-05	No	No															
		18000	1.7E-06	4.0E-07	17.8	22	18	1800	1.10	1.4E-02	1.5E-08	2.9E-05	No	No															
		30000	8.4E-07	2.0E-07	17.8	22	18	1800	1.10	1.4E-02	7.8E-07	1.5E-05	No	No															
		50000	4.2E-07	1.0E-07	17.8	22	18	1800	1.10	1.4E-02	3.9E-07	7.3E-06	No	No															
		50000+	1.7E-07	4.0E-08	17.8	22	18	1800	1.10	1.4E-02	1.5E-07	2.9E-06	No	No															
		50000++	8.4E-08	2.0E-08	17.8	22	18	1800	1.10	1.4E-02	7.8E-08	1.5E-06	No	No															
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Brammachi 1958																													
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																													
Distance (m)		Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)		Acute TRV Uncertainty Adjustment		Chronic TRV Uncertainty Adjustment		Acute TRV (g/kg)		Chronic TRV (g/kg)		Chronic TRV (g/kg)		Acute Hazard Quotient		Chronic Hazard Quotient		Acute Effect		Chronic Effect			
Dermal Absorption		7500	1.0E-02	2.9E-08	2	216	18	180	0.13	1.4E+00	8.0E-02	2.1E-08	No	No															
		10000	5.0E-03	1.4E-08	2	216	18	180	0.13	1.4E+00	4.0E-02	1.1E-08	No	No															
		18000	2.0E-03	5.8E-07	2	216	18	180	0.13	1.4E+00	1.6E-02	4.3E-07	No	No															
		30000	1.0E-03	2.9E-07	2	216	18	180	0.13	1.4E+00	8.0E-03	2.1E-07	No	No															
		50000	5.0E-04	1.4E-07	2	216	18	180	0.13	1.4E+00	4.0E-03	1.1E-07	No	No															
		50000+	2.0E-04	5.8E-08	2	216	18	180	0.13	1.4E+00	1.6E-03	4.3E-08	No	No															
		50000++	1.0E-04	2.9E-08	2	216	18	180	0.13	1.4E+00	8.0E-04	2.1E-08	No	No															
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1990																													
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																													

Mobile Smoke - Cannon Range (Mush Paddle Hollow)															
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)	robin chick		**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ³)			*Acute Toxicity Value (g/m ³)											
Inhalation															
	3000	1.0E-02	3.4E-07	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-03	2.1E-02	No	No	No
	4000	5.0E-03	1.7E-07	60	0.1	18	180	3.75	6.3E-04	1.6E-05	1.3E-03	1.1E-02	No	No	No
	7000	2.0E-03	6.8E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	5.3E-04	4.3E-03	No	No	No
	10000	1.0E-03	3.4E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-04	2.1E-03	No	No	No
	18000	5.0E-04	1.7E-08	60	0.1	18	180	3.75	6.3E-04	1.6E-05	1.3E-04	1.1E-03	No	No	No
	30000	2.0E-04	6.8E-09	60	0.1	18	180	3.75	6.3E-04	1.6E-05	5.3E-05	4.3E-04	No	No	No
	50000	1.0E-04	3.4E-09	60	0.1	18	180	3.75	6.3E-04	1.6E-05	2.7E-05	2.1E-04	No	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987															
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992															
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/kg)			*Acute Toxicity Value (g/kg)											
Ingestion															
	7500	8.4E-08	1.3E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	7.8E-08	9.4E-05	No	No	No
	10000	4.2E-08	6.5E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.8E-08	4.7E-05	No	No	No
	18000	1.7E-08	2.6E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.5E-08	1.9E-05	No	No	No
	30000	8.4E-07	1.3E-07	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	7.8E-07	9.4E-08	No	No	No
	50000	4.2E-07	6.5E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	3.8E-07	4.7E-08	No	No	No
	50000+	1.7E-07	2.6E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	1.5E-07	1.9E-08	No	No	No
	50000++	8.4E-08	1.3E-08	17.8	22	18	1800	1.10	1.4E-02	1.4E-02	7.8E-08	9.4E-07	No	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958															
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989															
Distance (m)	Daily Acute Intake Value (g/m ³)		Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
	Daily Acute Intake Value (g/m ³)	Skin Surface Area (m ²)		*Acute Toxicity Value (g/kg)											
Dermal Absorption															
	7500	1.0E-02	2.0E-02	1.9E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-02	1.4E-08	No	No
	10000	5.0E-03	2.0E-02	9.3E-07	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-02	6.9E-07	No	No
	18000	2.0E-03	2.0E-02	3.7E-07	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-02	2.8E-07	No	No
	30000	1.0E-03	2.0E-02	1.9E-07	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-03	1.4E-07	No	No
	50000	5.0E-04	2.0E-02	9.3E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	4.0E-03	6.9E-08	No	No
	50000+	2.0E-04	2.0E-02	3.7E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	1.6E-03	2.8E-08	No	No
	50000++	1.0E-04	2.0E-02	1.9E-08	2	216	18	180	0.13	1.4E+00	1.4E+00	8.0E-04	1.4E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980															
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989															

Mobile Smoke - Bailey McCann Hollow or Babb Airfield															robin chick				
Distance (m)	Daily Acute Intake Value (g/m ²)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)	**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect				
Inhalation																			
	3000	1.0E-02		8.7E-07	80	0.1	16	16	180	3.75	1.6E-05	2.7E-03	5.5E-02	No	No				
	4000	5.0E-03		4.4E-07	60	0.1	16	16	180	3.75	1.6E-05	1.3E-03	2.8E-02	No	No				
	7000	2.0E-03		1.7E-07	60	0.1	16	16	180	3.75	1.6E-05	5.3E-04	1.1E-02	No	No				
	10000	1.0E-03		8.7E-08	60	0.1	16	16	180	3.75	1.6E-05	2.7E-04	5.5E-03	No	No				
	18000	5.0E-04		4.4E-08	60	0.1	16	16	180	3.75	1.6E-05	1.3E-04	2.8E-03	No	No				
	30000	2.0E-04		1.7E-08	60	0.1	16	16	180	3.75	1.6E-05	5.3E-05	1.1E-03	No	No				
	50000	1.0E-04		8.7E-09	60	0.1	16	16	180	3.75	1.6E-05	2.7E-05	5.5E-04	No	No				
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																			
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																			
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)			Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect			
Ingestion																			
	7500	8.4E-06		3.4E-08	17.8	22	16	16	1800	1.10	1.4E-02	7.8E-08	2.4E-04	No	No	No			
	10000	4.2E-06		1.7E-08	17.8	22	16	16	1800	1.10	1.4E-02	3.8E-08	1.2E-04	No	No	No			
	18000	1.7E-06		6.7E-09	17.8	22	16	16	1800	1.10	1.4E-02	1.5E-08	4.9E-05	No	No	No			
	30000	8.4E-07		3.4E-09	17.8	22	16	16	1800	1.10	1.4E-02	7.8E-09	2.4E-05	No	No	No			
	50000	4.2E-07		1.7E-09	17.8	22	16	16	1800	1.10	1.4E-02	3.8E-09	1.2E-05	No	No	No			
	50000+	1.7E-07		6.7E-08	17.8	22	16	16	1800	1.10	1.4E-02	1.5E-09	4.9E-06	No	No	No			
	50000++	8.4E-08		3.4E-08	17.8	22	16	16	1800	1.10	1.4E-02	7.8E-08	2.4E-06	No	No	No			
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																			
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																			
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)	**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)			Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect			
Dermal Absorption																			
	7500	1.0E-02	2.0E-02	4.8E-08	2	216	16	16	180	0.13	1.4E+00	8.0E-02	3.8E-06	No	No	No			
	10000	5.0E-03	2.0E-02	2.4E-08	2	216	16	16	180	0.13	1.4E+00	4.0E-02	1.8E-06	No	No	No			
	18000	2.0E-03	2.0E-02	9.7E-09	2	216	16	16	180	0.13	1.4E+00	1.6E-02	7.1E-07	No	No	No			
	30000	1.0E-03	2.0E-02	4.8E-09	2	216	16	16	180	0.13	1.4E+00	8.0E-03	3.8E-07	No	No	No			
	50000	5.0E-04	2.0E-02	2.4E-09	2	216	16	16	180	0.13	1.4E+00	4.0E-03	1.8E-07	No	No	No			
	50000+	2.0E-04	2.0E-02	9.7E-09	2	216	16	16	180	0.13	1.4E+00	1.6E-03	7.1E-08	No	No	No			
	50000++	1.0E-04	2.0E-02	4.8E-08	2	216	16	16	180	0.13	1.4E+00	8.0E-04	3.8E-08	No	No	No			
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																			
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																			

Mobile Smoke - Bailey McCann Hollow or Babb Airfield										robin chick											
Distance (m)	Daily Acute Intake Value (g/m ³)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/m ³)	*Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect								
Inhalation																					
3000	1.0E-02	6.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-03	4.0E-02	No	No								
4000	5.0E-03	3.1E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-03	2.0E-02	No	No								
7000	2.0E-03	1.3E-07	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-04	8.0E-03	No	No								
10000	1.0E-03	6.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-04	4.0E-03	No	No								
18000	5.0E-04	3.1E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	1.3E-04	2.0E-03	No	No								
30000	2.0E-04	1.3E-08	60	0.1	16	160	3.75	6.3E-04	1.6E-05	5.3E-05	8.0E-04	No	No								
50000	1.0E-04	6.3E-09	60	0.1	16	160	3.75	6.3E-04	1.6E-05	2.7E-05	4.0E-04	No	No								
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																					
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																					
Distance (m)	Daily Acute Intake Value (g/kg)	Daily Chronic Intake Value (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Ingestion																					
7500	8.4E-06	2.4E-08	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	1.8E-04	No	No									
10000	4.2E-06	1.2E-08	17.6	22	16	1600	1.10	1.4E-02	3.8E-08	8.8E-05	No	No									
18000	1.7E-06	4.8E-07	17.6	22	16	1600	1.10	1.4E-02	1.5E-08	3.5E-05	No	No									
30000	8.4E-07	2.4E-07	17.6	22	16	1600	1.10	1.4E-02	7.6E-07	1.8E-05	No	No									
50000	4.2E-07	1.2E-07	17.6	22	16	1600	1.10	1.4E-02	3.8E-07	8.8E-06	No	No									
50000+	1.7E-07	4.8E-08	17.6	22	16	1600	1.10	1.4E-02	1.5E-07	3.5E-06	No	No									
50000++	8.4E-08	2.4E-08	17.6	22	16	1600	1.10	1.4E-02	7.6E-08	1.8E-06	No	No									
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																					
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																					
Distance (m)	Daily Acute Intake Value (g/m ³)	Dermally absorbed dose (g/kg-day)	*Acute Toxicity Value (g/kg)	*Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect									
Dermal Absorption																					
7500	1.0E-02	3.5E-08	2	216	16	160	0.13	1.4E+00	8.0E-02	2.8E-08	No	No									
10000	5.0E-03	1.7E-08	2	216	16	160	0.13	1.4E+00	4.0E-02	1.3E-08	No	No									
18000	2.0E-03	7.0E-07	2	216	16	160	0.13	1.4E+00	1.6E-02	5.2E-07	No	No									
30000	1.0E-03	3.5E-07	2	216	16	160	0.13	1.4E+00	8.0E-03	2.8E-07	No	No									
50000	5.0E-04	1.7E-07	2	216	16	160	0.13	1.4E+00	4.0E-03	1.3E-07	No	No									
50000+	2.0E-04	7.0E-08	2	216	16	160	0.13	1.4E+00	1.6E-03	5.2E-08	No	No									
50000++	1.0E-04	3.5E-08	2	216	16	160	0.13	1.4E+00	8.0E-04	2.8E-08	No	No									
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																					
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																					

Mobile Smoke - Bailey McCann Hollow or Babb Airfield																
Distance (m)	Daily Acute Intake Value (g/m ³)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/m ³)		**Chronic Toxicity Value (g/m ³)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/m ³)	Chronic TRV (g/m ³)	Chronic Dose Adjusted TRV (g/kg-day)	Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Inhalation	3000	1.0E-02	4.1E-07	80	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	2.7E-03	2.6E-02	No	No
	4000	5.0E-03	2.0E-07	80	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	1.3E-03	1.3E-02	No	No
	7000	2.0E-03	8.1E-08	80	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	5.3E-04	5.2E-03	No	No
	10000	1.0E-03	4.1E-08	80	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	2.7E-04	2.6E-03	No	No
	16000	5.0E-04	2.0E-08	80	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	1.3E-03	1.3E-03	No	No
	30000	2.0E-04	8.1E-09	60	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	5.3E-05	5.2E-04	No	No
	50000	1.0E-04	4.1E-09	60	0.1	18	1.6E-05	3.75	6.3E-04	180	3.75	1.6E-05	2.7E-05	2.6E-04	No	No
*Acute critical effect is oil pneumonia. Critical Study: Shinn et al. 1987																
**Chronic critical effects are minor lesions of the heart, liver, and lungs. Critical Study: Driver et al. 1992																
Distance (m)	Daily Acute Intake Value (g/kg)		Daily Chronic Intake Value (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Ingestion	7500	8.4E-08	1.6E-08	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	7.9E-08	1.1E-04	No	No
	10000	4.2E-08	7.8E-07	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	3.9E-06	5.7E-05	No	No
	18000	1.7E-08	3.1E-07	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	1.5E-06	2.3E-05	No	No
	30000	8.4E-07	1.6E-07	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	7.9E-07	1.1E-05	No	No
	50000	4.2E-07	7.8E-08	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	3.9E-07	5.7E-06	No	No
	50000+	1.7E-07	3.1E-08	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	1.5E-07	2.3E-08	No	No
	50000++	8.4E-08	1.6E-08	17.6	22	1800	1.4E-02	1.10	1.4E-02	1800	1.10	1.4E-02	7.9E-08	1.1E-06	No	No
*Acute critical effects are weight loss and lesions of the liver, spleen, and kidney. Critical Study: Bramachari 1958																
**Chronic critical effect is gastrointestinal irritation. Critical Study: Lewis 1989																
Distance (m)	Daily Acute Intake Value (g/m ²)		Dermally absorbed dose (g/kg-day)		*Acute Toxicity Value (g/kg)		**Chronic Toxicity Value (g/kg)	Acute TRV Uncertainty Adjustment	Chronic TRV Uncertainty Adjustment	Acute TRV (g/kg)	Chronic TRV (g/kg)		Acute Hazard Quotient	Chronic Hazard Quotient	Acute Effect	Chronic Effect
Dermal Absorption	7500	1.0E-02	2.2E-02	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	8.0E-02	1.7E-08	No	No
	10000	5.0E-03	1.1E-08	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	4.0E-02	8.3E-07	No	No
	18000	2.0E-03	2.0E-02	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	1.9E-02	3.3E-07	No	No
	30000	1.0E-03	2.2E-07	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	8.0E-03	1.7E-07	No	No
	50000	5.0E-04	1.1E-07	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	4.0E-03	8.3E-08	No	No
	50000+	2.0E-04	2.0E-02	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	1.9E-03	3.3E-08	No	No
	50000++	1.0E-04	2.2E-02	2	216	180	1.4E+00	0.13	1.4E+00	180	0.13	1.4E+00	8.0E-04	1.7E-08	No	No
*Acute critical effect is slight to moderate skin irritation. Critical Study: Palmer 1980																
**Chronic critical effects are well defined erythema and edema. Critical Study: Lewis 1989																